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Original Articles.

THE PERMANENT PRESERVATION OF ANATOMIC, EMBRYOLOGIC, PATHOLOGIC AND BACTERIOLOGIC SPECIMENS

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In teaching by modern laboratory methods, nothing is more important than the artistic and accurate preservation of material in such a manner as to retain permanently the natural colors and secure mounts that conveniently can be labelled, handled and exhibited The old methods, yielding uncolored, bulky masses, possessing, save in form, little resemblance to the original, gave most unsatisfactory results, and hence museums more than five or ten years of age no longer meet the requirements of to-day The specimens I exhibited at the Atlantic City Session of the Association received such flattering notice, and so many have written for the details of the method, that it seems desirable to publish in full the various steps necessary to attain the results shown Except in minor details (which are essential), the method makes no claim to originality, it is the assembling of what seemed the best in several methods, published and unpublished, and still is replete with possibilities that have not been worked out Undoubtedly the method could be applied to the preservation of botanic specimens, but having no facilities for experiment in this direction I have not attempted to adapt it to that purpose

The method is based on the well-known Kaiserling process, and the permanent preservation in gelatin is but a modification of the old glycerin-jelly medium, long a standard agent with microscopists Much of the detail requiring experiment has been worked out by Dr John Funke, to whose patience and care the beautiful results obtained are largely due Petri dishes, mounted on glass plates, were first brought to my attention by Dr S W Sappington who used ground glass, which obscured one side of the specimen, but nevertheless yielded very beautiful results

Dr H E Radasch associate in embryology in the Jefferson Medical College, has worked out the technic of attaching letters to the specimen so that the label may be made descriptive, like the legends in our text-books My secretary experimented with various typewriter ribbons and eventually found that the stock article called "The Record Ribbon" met all requirements

THE FI the od UID

The a changed The method o treatment of anato most economical but probab id (2) the developer, and (3) the final preservative, and for these purposes I have utilized the generally accepted fluids of the Kaiserling method The fixation fluid is composed of

Formalin (any 40 per cent aqueous solution of formaldehyd gas serves equally well)	250 c c.
Potassium nitrate	10 gms
Potassium acetate	30 gms
Water	1,000 c c

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7 inche
7 inche
5 inche
4 inche

The salts are dissolved in the water and the formali then added It is desirable, but not strictly neces that the salts be chemically pure, a good comr ortant, article gives satisfactory results, but many specim ny spr n is the salts contain iron, and even traces of this m what sary, tend disaster For this reason no metal is pe d th ercial come in contact with the solution or the spec h a mens of ing any stage of their preparation, the only er t etal por- this rule has been the occasional use of lea all rmitted to ing down such organs as lungs and also imens dur- other tissues that tend to float, but even f exception to pieces of tile, brick or crockery are better ld for weight- is made in fifteen-gallon jars, with lips lipomata and form commercially used for the pres or this purpose kraut The mixture and lids of the xation of sauer-

THE DEVELOPER AND THE PR VATIVE

The developing fluid is alcohol iters (includ- ign Kaiserling) recommend two st an 80 per cent and a 95 per cent, but we use he ordinary commercial article So far as we ca ve, methyl alcohol possesses no advantages

The final preservative, in its liquid the fol- lowing formula

Acetate of potassium
Glycerin
Water

is

The acetate and glycerin are thoroug the water added The order is probably tance in the preparation of either this d fluid, but in the latter one wishes to delay th formalin as long as possible, as it is quite m to stand over and stir the mixture after the fo is added One word with regard to the water distilled water is best but some tap waters m be used water from any mechanical filter using alum can not be trusted Filtration of the fixation fluid is unnecessary the preservative should be filtered through a thick pad of cotton placed at the bottom of a large funnel or percolator As soon as the final fluid is prepared a lump of thymol (about 15 to 20 gms) large enough to be seen and easily handled is placed in the container and each vessel of the final preservative should contain a piece of thymol sufficiently large to be picked out or left in the vessel when the fluid is poured out or used When specimens are permanently preserved in this solution, a lump of thymol should be kept in the jar to prevent the growth of fungi

THE GELATIN MEDIUM

The solid medium in which the preparations are finally preserved is a 10 per cent solution of gelatin in the acetate of potassium glycerin and water mixture This is prepared by soaking the requisite amount of gelatin in the mixture for 12 to 24 hours, the container is then placed on a water bath or in flowing hot water until the gelatin melts, this takes but a short time The mixture is rendered decidedly acid to litmus by the addition of acetic acid, about 1 c c to the liter, and clarified by the use of egg albumin exactly as in preparing gelatin media Acetic acid favors complete coagulation of the albumin, tends to make the gelatin clearer and, as originally suggested by Williams acidity seems to assure better color preservation The broken shells and whites of four eggs should be used for each liter of the mixture After filtration the prepared medium is bottled and placed on ice until solid, and then a large crystal of thymol is thrown on top of the solidified gelatin and the container stop- red Prepared in this way, the medium keeps until led When wanted, the crystal of thymol is removed forceps and the gelatin liquefied at a low tempera The thymol should be taken out before warming itin otherwise it evinces a tendency to fragment, is dissolved in such quantity that, when the fluid a precipitate forms rendering the medium l slightly opaque It is well known by bachat gelatins differ, and we have found at that can not be cleared satisfactorily The hat has given us the best results is that cially as "W H No 1,866" Some gelaitain a masked coloring which causes the ative to appear decidedly red it should olor and perfectly transparent Care is ude iron and hence the gelatin should beakers or porcelain vessels, new agatecracks or shales may be employed, but it worthy that time and patience are saved by I have not tried copper, but judge the exic acid would render its use risky

THE SPECIMEN

of the highest importance that the material to be ved shall be received in a proper condition Fresh- a prerequisite, when the blood has begun to yield oloring matter and imbibition has tinged the specin, only a motley result can follow Our results with pecimens that have been frozen or iced for any time, even if the colors at the beginning of the process seemed good, have not been satisfactory Nothing shows this better than a pair of kidneys received fresh from an autopsy, one carried through immediately, and the other iced or kept in the refrigerator until the next day, when its preparation is begun, when obtained the organs may have appeared identical, after preparation the resemblance is superficial The influence of blood imbibition (I use this term for combined hemolysis and hemoglobin diffusion as the hackneyed expression of the autopsy room) is such that a specimen left in a pan or on a plate containing a little blood-stained fluid will carry the markings of the latter to the end If fixation at once is not practicable, rinse off the blood stains and wrap the specimen in sufficient gauze, or a number of towels, to absorb any fluid that may escape, the fact that fluid escapes is proof that something is being lost, and it is attention to just such details that assures success

THE ORIENTATION

This is a most important step The specimen is arranged, posed or oriented just as it is to appear when mounted, during fixation the stiffening action of the formalin gives a permanent shape even to such thin specimens as the intestine, and readjustment of such organs as the heart, lung, kidney or bladder becomes impossible In this orientation every thread tied across the specimen will leave its mark, and each hole made will show, iron (tacks) can not be used, and even the slender entomologic pins leave small black holes, white thread (linen) is best, for pinning, wooden or quill toothpicks may be used A number of cork blocks, 25 cm square and 3 5 cm thick, are especially useful for attaching and holding organs in position, intestine and other membranous specimens may be wound around such a block The disadvantage of cork is the weight necessary to sink it, but even with this drawback it is better than glass If both sides are to show, it is best to sew the specimen in a glass frame arranged for permanent mounting If spread on cork or glass, four layers of thick, tough filter paper free from lint should be interposed between the specimen and the cork or glass Cotton serves as well, but fixes tightly to albuminized surfaces, towels and cheesecloth are prone to mark the specimen with a screen effect The cork, with the attached specimen turned downward, is thrown in the fixation fluid, and a brick placed on the top submerges the specimen and part of the cork Care should be taken that the center of the specimen does not fall away from the cork, this can be prevented by obliquely placed toothpicks Although highly recommended, we have not resorted to injection through the blood vessels, but for very large masses or the fixation of organs like the brain and liver it might be highly advantageous Cysts, hydronephrotic kidneys, unopened intestine, stomach and other specimens containing cavities may be distended with the fixation fluid and sectioned later

The formalin solution accomplishes more than one purpose It fixes the specimen, I presume fixation is a coagulative process, at least in part, but it is more, the exact nature of the chemical change I shall not discuss at this time The specimen stiffens, blanches, and becomes more or less friable and inelastic, the color changes appear to have ruined the mount The fluid not only fixes, but also sterilizes the specimen, and, although surface color and contour may be preserved by surface fixation, penetration is necessary for satisfactory permanent preservation For this reason a change to a second container of the fixation fluid is advised The cork block or other retentive device is no longer needed, and in the second jar the specimens are packed lightly with towels or cotton at the bottom and interposed between As soon as the first formalin solution becomes soiled it is thrown out the second is moved back to become the first, the emptied container is washed and filled with fresh solution and replaces the second jar, now moved back to become the first The solutions may be used repeatedly, provided specimens containing bile are excluded Sometimes bile-stained specimens turn very green, all other colors being thereby obscured, such organs, usually livers, greatly discolor all the fluids into which they are placed In preserving livers it is well to wash the bile from the gall bladder and rinse the surface of the o thoroughly I would advise, under all circumsta pecimens of liver be carried through sepa which one can foretell ho me-times no green tint develops, and beautiful color differentiations are obtained, we have no finer specimens than some of red atrophy put up over a year ago

The most puzzling and unanswerable question, and at the same time an exceedingly important one, is how long must the formalin act? This depends entirely on the size and consistency of the specimen A piece of stomach, intestine, diaphragm or other membrane will have fixed fully after three hours in each of the two formalin solutions Half of a kidney should be left at least twelve hours in each solution, and a brain twenty-four hours in each solution Prolonged immersion in the fixative solution may render development of the color impossible, but on the other hand under-fixation is sure to leave the blood coloring matter soluble, so that it washes out or diffuses in the later handling Large specimens, such as brains, livers, and even kidneys, if not sectioned when placed in the first solution should be freely incised, or, better, cut into slabs 4 to 8 cm in thickness before entering the second fixing solution

THE WASHING OUT

The next step is getting rid of the excess of fixation fluid This is accomplished by washing in running water for fifteen to twenty minutes, after which the specimen is transferred to the first alcohol In my estimation the success of the process depends on the care and judgment exercised in the development of colors in the alcohol The process should always begin in the morning, as I know of no safe criterion by which it is possible to foretell the length of time that will be necessary, and, as daylight is essential to watching the evolution of color, late afternoon and evening hours must be avoided The excess of water is mopped off and the specimen completely submerged in commercial alcohol (94 per cent), the color begins to appear in a few minutes, and as soon as it is fairly under way the tissue should be transferred to the second alcohol, and when restoration of color is complete the organ is quickly drained and submerged in the final preservative When the restoration of color is complete fading begins, progresses rapidly, and once the color is lost in alcohol, I know of no way by which its return can be secured, hence the process must be watched carefully The stay in alcohols is also influenced by the future treatment to which the specimen is to be subjected If it be a membrane, like a piece of intestine, even twenty minutes to a half hour for the two alcohols may be excessive on the other hand, if it be a slab of an organ, the surface of which can be shaved down to the point where the alcohol has penetrated just to the proper degree, less care is necessary and over-development less likely to prove disastrous As soon as the color is restored further action of the alcohol must be arrested by immersing the specimen in the first container of the potassium acetate, glycerin and water mixture where it should be fully submerged and allowed to remain for the same length of time that it was in the alcohols, after which it is transferred to the second jar of the same fluid in which the preservation may be permanent, or after one or two weeks preferably sooner, the mount is completed in formalin-glycerin-gelatin The first and second alcohols and the final preserving fluid are changed from time to time in the same way as already directed for changing the fixation fluid sooner or later the first alcohol gives off strongly the odor of formalin and the first preservative yields the odor of alcohol when both should be changed The method of changing suggested is the most economical but probably is not so good as the complete renewal of all solutions, however, we have found the way advised efficient

Specimens prepared as suggested preserve their color fairly well, to a large degree the permanency depends on the freshness of the material Most observers lay great stress on the necessity of excluding light, probably darkness is better, but the chief difficulty lies in the macerating and solvent action of any solution, and to avoid these dangers a permanent solid medium is to be recommended, and for this purpose formalin-glycerin-gelatin is almost ideal

FORMALIN-GLYCERIN-GELATIN MOUNTS IN PETRI DISHES

The pieces of plate glass and Petri dishes used in preparing the mounts vary in size The largest Petri dish that we have used is 20 cm in diameter and requires a plate glass 9 by 11 inches The following table gives the sizes of Petri dishes and glass plates necessary for all ordinary purposes, the conversion of the metric measurements to inches is approximate

Petri Dishes	Plate Glass.
20 cm	22 5x27 5 cm, 9x11 inches
15 cm	20 0x22 5 cm 8x 9 inches
12 cm	20 0x22 5 cm 8x 9 inches
10 cm	12 5x17 5 cm, 5x 7 inches
8 cm	12 5x17 5 cm 5x 7 inches
6 cm	10 0x12 5 cm 4x 5 inches
5 cm	7 5x10 0 cm, 8x 4 inches

The thickness of the plate glass is important, as thin pieces are often bent in handling, and any spring tends to loosen the attached dish No matter what the surface dimensions, I am strongly convinced that the glass should not be less than one-fourth inch and, better, three-eighths inch in thickness, a greater thickness might be desirable, but would add materially to the bulk and weight The Petri dishes should be free from bubbles or rings, and when placed with the edge on plate glass should not rock, thus showing that the edge is true The specimen to be mounted is placed in the dish, and this is filled with final preservative for the purpose of ascertaining the quantity of gelatin that will be needed to complete the mount We will say that this is found to be 100 c c Take 120 c c of the prepared gelatin, liquefied, and pour about one-half into the Petri dish, which must be thoroughly cleansed, place the specimen in this, carefully excluding air bubbles, and press it close to the bottom of the dish, using a light tile or glass weight if necessary Even when every care is taken gelatin poured from one vessel to another tends to froth or form small bubbles which, after congelation, are difficult to remove, wherever such a bubble forms, it should be sucked up in a medicine dropper while the medium is still fluid When properly oriented, dish and contained specimen are set aside in order to solidify the gelatin, using an iced chamber or the refrigerator, if the temperature of the room is too high The mount may be left in this condition for several hours if desired, or mounting may be completed as soon as the gelatin is solid Prolonged or too great cooling may cause corrugation of the surface retraction from the sides of the dish, and permits less perfect fusion of the gelatin added later, and for these reasons is not recommended

To complete the mount, pour on the solidified medium sufficient formalin to render the contained gelatin 0 75 per cent. formalin when the mount is completed For example If 100 c c of gelatin is necessary, 0 75 c c. of formalin should be poured on the solidified layer Fill the dish with the remainder of the gelatin and place it on a piece of glass resting on the table in such a way that both can be picked up readily while in this position put in place the glass plate that is to cover the P dish As soon as the plate is in the desired position, grasp the mount between the two glass plates, turn it over quickly, and run a ring of gelatin around the junction between the plate and the dish This is necessary because as the gelatin solidifies it contracts, and in the absence of an excess at the line of contact between plate and Petri dish such contraction may permit the entrance of air Set the dish aside for a few hours (over night or longer), until the gelatin is completely set Run a knife around the Petri dish, holding it parallel with the side of the dish, thus cutting the gelatin loose from the side, the excess may readily be stripped off Wash the plate quickly in cold water, dry rapidly, and with a dropper run a thin band of gelatin containing 1 per cent formalin around the line of contact between the Petri dish and the glass plate This will quickly set and in a day or so may be painted over with xylol balsam applied either with a brush or dropper, the first layer of balsam should be thin As soon as the balsam ceases to be sticky to the finger a second coat is applied, and this should be repeated until a sufficiently thick rim has been made I have no doubt that a turn-table would be convenient for the application of the gelatin and balsam rings but we have not found such an appliance necessary It has been suggested that the initial gelatin ring might be chromicised by the addition of bichromate of potassium, or by painting it over with a bichromate solution after it has solidified A number of cements, including Bell's cement, asphaltum and gold-size, have been tried, but seem to possess no special advantages

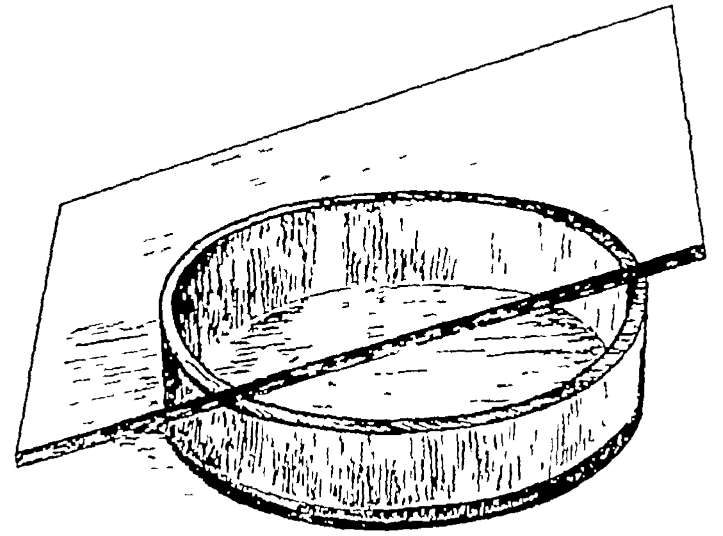
Fig 1 —Method of applying the cover by tilting it over the dish The specimen and contained gelatin are not shown in the illustration

The most difficult part of the procedure is adjusting the glass plate on top of the Petri dish in such a way as to prevent the entrance of air at the time the mount is made In the accompanying sketches (Figs 1 and 2) an attempt is made to show how the plate cover is applied, one method is by tilting it in position, and the other by sliding it over the dish By the latter method a slight band of gelatin is kept ahead of the advancing plate, thereby preventing the entrance of air Dr Funke, who has been most successful in the preparation of these specimens, likes this method for the larger Petri dishes During the experimental work necessary to perfect the process I was more successful with the other method As neither is satisfactory under all conditions, some worker should be able to devise a means that is better than either We have seriously considered submerging the dish either in gelatin or in water, but the methods detailed have been adequate In the beginning there will be some difficulty in excluding air, but with a little experience one is able to secure satisfactory results I do not know that a little air does any harm, although our experience has been that an air bubble invariably goes directly to the place where one does not desire it Dr Funke suggests that specimens having irregular and corrugated surfaces that afford numerous depressions in which air bubbles may lodge should be coated with gelatin before any attempt is made to mount them Intestine frequently requires such treatment He advises me also that lungs and other specimens containing spaces occupied by air be placed in a vacuum or chamber in which the air is rarefied in order that the gas in the interstices may more rapidly be displaced by the gelatin We have not tried this method, but suggest it as a possible solution of the difficulty frequently encountered in the preparation of lungs The gelatin infiltration would be facilitated by immersing such specimens over night or longer in the medium kept liquid in the incubator

Often a thin specimen would require so much of the medium to fill the dish that the resulting weight would make a cumbersome and unwieldy mount This difficulty may be overcome by attaching the specimen to the dish by means of gelatin, and leaving the remaining space empty This is best accomplished by flooding the surface of the glass plate with formalin-glycerin-gelatin, the specimen, for example a piece of intestine, is removed from the preserving liquid, lightly blotted with a towel and pressed into the gelatin, which quickly sets The surface of the specimen to be viewed is left uncovered As soon as the gelatin has set firmly, a slightly-warmed Petri dish is inverted over the specimen and pressed into the gelatin, the excess of gelatin outside the dish is removed with a knife or spatula, a narrow rim of gelatin painted around the junction between the Petri dish and the plate, and the seal completed by xylol balsam or other cement, as already directed Sometimes such mounts loosen from the glass, but this difficulty has given us no trouble except in thick, weighty specimens, such as slabs of liver and bulky pieces of lungs It could have been avoided by making thinner slices We strongly advise this method for exhibiting the granular surface of a specimen where the unevenness would be obliterated by submersion in gelatin It is recommended for exhibiting the granular surface of an incised lung in the red stage of croupous pneumonia, and for hemorrhagic infarcts So far as we can see, the color preservation is fully as good as in submerged preparations The method should be especially useful for

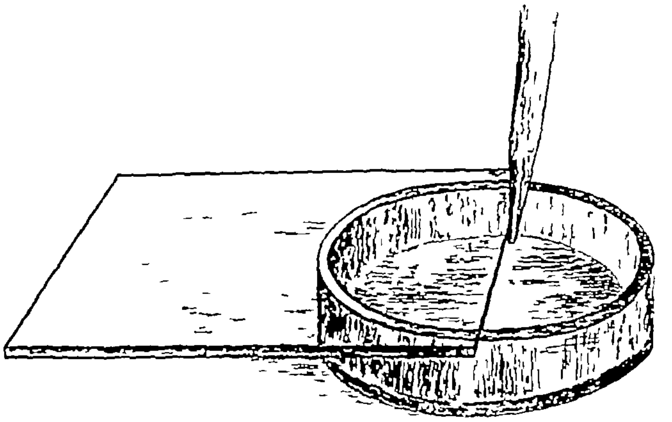
Fig 2 —Sliding the glass plate into position A Medicine dropper by means of which a roll of fluid gelatin is kept in front of the advancing plate This method is especially adapted to large mounts

the mounting of large brain sections, or slabs, for teaching purposes If the Petri dish be shallow, so as to throw the specimen near the surface, an excellent view can be obtained Mounting on the surface of gelatin is adapted to the exhibition of animal parasites that have been preserved by any of the formalin methods commonly used

The principle can be applied to gelatin plates containing colonies If the plates are in Petri dishes it is only necessary to invert the dish on the glass plate, ring it with gelatin and complete the seal as already directed If the old method of plating on glass, as originally advised by Koch, be used, the inverted Petri dish is warmed, a few drops of formalin placed on the gelatin, and the dish gently forced into position, the surrounding excess of gelatin is removed, and the sealing completed

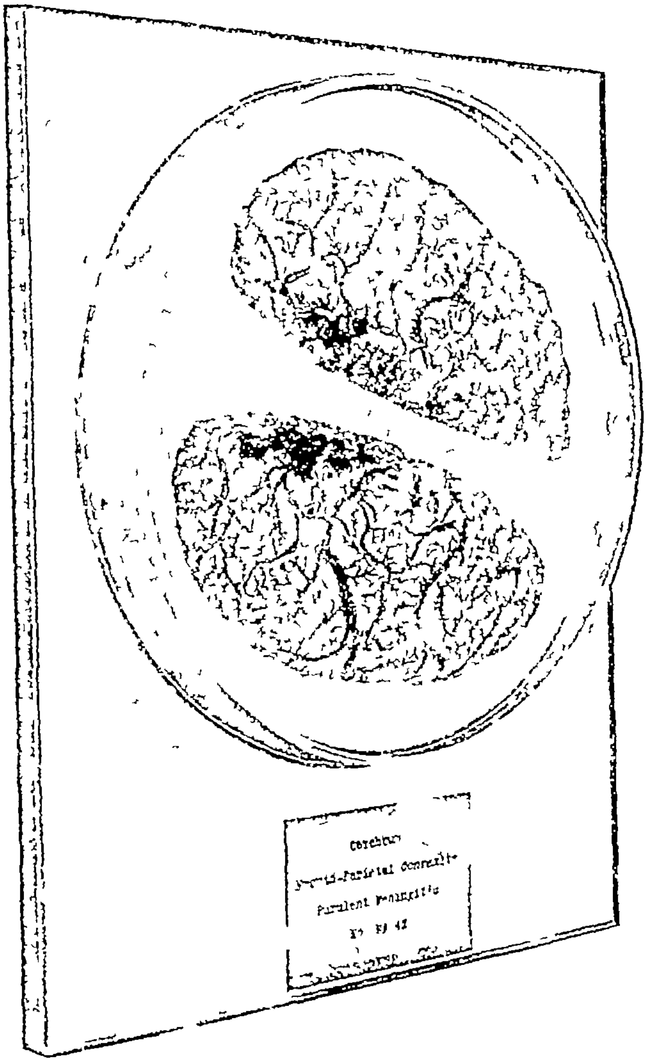

Fig 3—Completed mount in formalin glycerin gelatin All parts of the mount are well shown except the ring of cement joining the Petri dish to the glass plate unfortunately the photograph has not brought out the transparent ring of balsam The actual size of the glass plate is 22 5 cm by 27 5 cm (9 by 11 inches) The specimen is a part of the brain surface showing slight exudate and areas of hemorrhage case of purulent meningitis

LABELLING

The card used for labelling is the ordinary plain index card of medium thickness, on both sides the necessary legend is typewritten, using a "Record Ribbon" the card is now trimmed so that at each edge it will be one-eighth inch narrower than the slide or other glass intended to cover it The card is thrown into pure formalin and turned from side to side to prevent warping While the card is soaking in the formalin (for which only a minute or so is necessary) a slide is cleaned by any of the approved methods As a cover for the label we use a 2-inch by 3-inch slide, selecting, of course, the thinnest and most perfect with smooth edges A 10 per cent solution of gelatin, while still warm, is poured on the slide, the label is removed from the formalin, blotted between folds of filter paper, and quickly pressed down into the gelatin, a piece of filter paper is laid over it, and the label forced firmly against the slide, to which it adheres As soon as the gelatin is set, which takes but a minute or so, the slide and its attached label are placed in the formalin solution to complete the fixation of the gelatin The area on the glass plate selected for the label is now cleansed and some gelatin poured on the surface The label and attached slide are removed from the formalin, blotted with filter paper and pressed down on the gelatin, the label, of course, going next to the glass plate Weights are placed on the surface of the slide to force it into position, and the gelatin is allowed to pile up around the edges After the gelatin is set firmly, a knife is run around the edge and the excess removed, as already described for the dish A thin layer of gelatin is painted around the edges of the slide, and this, when dry, covered by xylol balsam in the same way as already directed for fastening Petri dishes in position Where there is room for the label, it could be placed beside the specimen within the Petri dish, however in that position it is more difficult to read and less readily seen when the mount is placed in a case Dr Radasch desired to label different parts of mounted embryos in such a manner that students handling the preparations could identify certain structures I had wished for the same thing and looked in vain for indestructible letters that could be used Dr Thomas C Stellwagen, Jr, kindly made for me some amalgam letters that we attached to specimens, but the process was laborious and time-consuming Dr Radasch found a typewritten letter could be used, the paper containing the letter is trimmed to the desired size, immersed in formalin, removed, rapidly blotted, grasped in forceps and inserted in place while the imbedding gelatin is still fluid He has many exquisite preparations lettered in this way, the labels constituting legends similar to those in our textbooks

When completed, such specimens make artistic permanent mounts (Fig 3) The gelatin lacks the macerating effect of fluids, and, so far as we can observe, preparations two years old are as fresh to-day as when first mounted The mounts can be handled with wet hands they may be washed with soap and water, and, as all parts are under glass, they are indestructible except by breaking The fact that they are glass and appear much more fragile than they really are lead students to manifest care in handling them Many of the preparations have been handled by hundreds of students and none has been broken That they are not exceedingly fragile is indicated by our experience at Atlantic City Nealy one hundred of these mounts were sent to the Session and when the boxes were opened not one was found broken, two were dropped from the table, and one of these cracked, but was not withdrawn from the exhibit few visitors noticed the break In returning from Atlantic City three were broken, but the packing was not well done

SPECIAL RECTANGULAR JAR

While the gelatin method is especially adapted to mounts of membranes, tissues in thin slabs and relatively light preparations, there still remain a number of specimens that conveniently can not be prepared in this way Over a year ago[1] I described a jar and adapted a clamp that, with some improvements, we are using today This device (Fig 1) consists of (1) a glass container (2) a special metal clamp contrivance for securing a water-tight seal, and (3) includes two special labelling devices The jar is 20 cm high, 10 cm wide and 4 cm thick When properly constructed the wall is practically the same thickness (0 4 cm) at all points Imported jars are recommended, as attempts to secure a jar of uniform thickness in this country have been unsuccessful American manufacturers seem unable to make a jar that is not thinner at the corners, and therefore unadapted to our purposes The clamp consists of two plates and two vertical rods which pass through the top and bottom plates, drawing these firmly to the jar by means of threads and nuts on the upper ends of the rods The rods are split above the top plate for the reception of a label, which consists of an ordinary index card, on both sides of which the legend is *written* The bottom of the jar is solid and rests on a rubber cushion, the top is closed by a similar rubber cushion that fits accurately into a recess that, in the figure, conceals it These cushions are made of extra heavy, steam packing rubber that in cylinder heads of engines lasts for months With the imported jar having thick sides the seal is perfect and in our mounts has remained so for over one year If the jar be opened or the fluid changed often it may be necessary to renew these rubbers, which are comparatively inexpensive Thin membranes, intestines and other specimens possessing too little rigidity to retain a permanent shape and position are attached to a frame made of glass rod

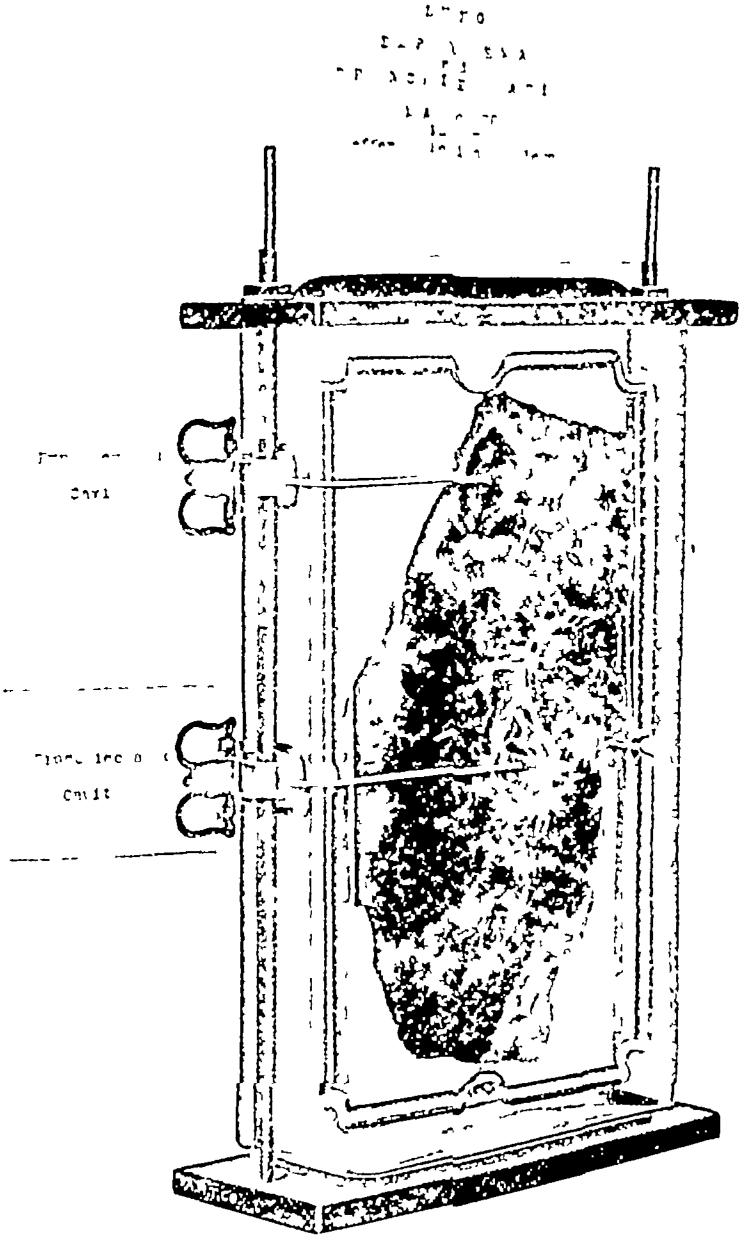

Fig 4—Improved rectangular jar, clamp and labelling device described in the text. The specimen photographed is a thin slab of lung showing emphysema and bronchiectasis Contrary to the rule in such cases it is decidedly red the high color being due to co-existing congestive condition resulting from associated cardiac lesions This relatively bright red color has prevented accurate reproduction of the specimen The labelling devices are well shown In retouching the photograph the glass frame by which the specimen is suspended has been made unduly conspicuous, as there was no way by which we could determine how much detail would be lost in the reproduction as a matter of fact, the frame is scarcely discernible when in position and covered by fluid Reproduction five twelfths natural size

A device that seems to me would be extremely advantageous in teaching is a labelled pointer than can be adjusted vertically on the rods at the side of the jar, and is used to indicate any particular point on the specimen to which it is desired to draw special attention These pointers can be placed at any height, are easily shifted from place to place, readily transferable from jar to jar, and any number desired may be used on one specimen

When properly sealed the jar may rest in any position, and of all devices for the preservation of specimens in a liquid medium it is most economical in space and fluid It requires but 5 cm (2 inches) shelf width and 13 cm (5¼ inches) base, so that seven jars without lateral cards can be placed on a shelf 6 cm (2½ inches) wide and 88 cm (36½ inches) in length The amount of lateral space occupied by labels supported on pointers depends, of course, on the size of the cards used for such labels Even under unusual conditions such cards should not be over 5 cm (2 inches) in length, and as but 4 cm of this projects beyond the base of the jar 17 cm (6¾ inches) will afford ample lateral space on the shelf, the depth of which remains the same as when side labels are not used I have considered cases for these jars, and also for the gelatin mounted preparations, built on the principle used in the construction of sectional bookcases, and, should directors of museums find such jars acceptable stacks could be arranged similar to those used in libraries where ready access to volumes is desirable[2]

Education of a Doctor—The layman who reads the proceedings of a medical congress in these days will be impressed with the fact that the practice of medicine has become a very serious business, and the preparation for it an arduous undertaking The old fashioned doctor, who got what training he had from a voluntary attendance on two terms of didactic lectures, aided by the reading of a few text-books and a possible association with an older practitioner, started out on his professional career with everything to learn, and his success or failure depended mainly on the personal qualities which he brought to his work Personal character and fitness are no less essential now than before, but it is simply impossible at the present time for a man to start out on the practice of medicine with the slender equipment allowable a generation ago It is not merely that the colleges require more preparation for a degree, they require more because the practice of medicine has developed into a science to be acquired laboriously —*Philadelphia Ledger*

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[1] Proceedings of the Pathological Society of Philadelphia, June, 1903

[2] I am indebted to the Arthur H Thomas Company of Philadelphia for the preparation of the illustrations that accompany this article

WHAT CREDIT, IF ANY, SHALL BE GIVEN THE HOLDERS OF BACCALAUREATE DEGREES FOR ADMISSION TO ADVANCED STANDING IN MEDICAL SCHOOLS? *

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PRINCIPAL CAUSES FOR THE DISCUSSION

When beginning preparation on this paper I was surprised to find how closely the closing paragraph of my remarks before this Association last year applied to the theme of this year's discussion. The substance of this paragraph may properly begin the discussion of my topic:

The allowance to be made graduates of colleges of liberal arts and science must receive careful attention. The independent colleges and medical schools suffer by the drifting of their students to the universities that can afford both lines of work and a combined course, saving one or two years of time. The presidents of independent colleges plead for subjects that they regard as essential to liberal culture—for example, psychology—while the deans of the independent medical schools plead for their share of the stronger students with the college training. All seem agreed, however, that the matriculate possessing the baccalaureate degree, other things being equal, is better fitted for entrance on medical study than the graduate of the high school.

NEW YORK ESSENTIAL STATUTORY REQUIREMENTS

The New York medical statute requires for admission to the licensing examination three essentials:

Educational.—1. Evidence of a general education preliminary to receiving the degree of bachelor or doctor of medicine in this state, the medical student certificate.

2. Evidence of the study of medicine for not less than four full school years of at least nine months each, including four satisfactory courses of at least six months each, in four different calendar years, in a medical school registered as maintaining at the time a satisfactory standard.

3. The degree of bachelor or doctor of medicine from some registered medical school.

The Principles of Registration.—The statute also requires that New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the state whose minimum graduation standard is less than that fixed by statute for New York medical schools.

All matriculates prior to Jan. 1, 1898, who graduated prior to Jan. 1, 1902, had to present evidence of three years' study of medicine in a registered medical school, subsequent to those dates, four years. And the earning of the medical student certificate two years prior to the date of graduation on a three years' course, when the majority of the strong schools were affording four-year medical courses, permitted the registration of most of the stronger medical schools of the United States.

For registration subsequent to Jan. 1, 1898, it soon became evident that but few medical schools of the United States could meet the New York statute if both preliminary and professional requirements were to be exacted of the school applying for registration. Under a ruling of the Attorney General, the registration by the regents of the general preliminary requirement, independent of the professional, seemed permissive. This permitted the registration of many of the stronger medical schools of the United States that formally agreed to meet the professional statutory requirements.

A widespread endeavor, however, to recognize the baccalaureate degree, as well as the degrees from schools of dentistry, veterinary medicine, pharmacy, osteopathy and the like, precluded the registration of a number of the stronger schools.

The Amendment of 1902.—After a careful discussion of the question by representatives of both the medical schools and of the medical profession of the state, an amendment to the medical act was passed in 1902, providing that:

"The regents may in their discretion accept, as the equivalent of the first medical year, evidence of graduation from a registered college course, provided that such college course included not less than the minimum requirements prescribed by the regents for such admission to advanced standing."

Meanwhile, as the amendment was passing through the legislature, it became apparent that the profession did not favor the extension of time to graduates of schools of dentistry, veterinary medicine, pharmacy, osteopathy, and the like.

THE DISCUSSION AT CONVOCATION, 1902

A careful discussion of this question in all its bearings occurred at convocation, 1902.[1]

This discussion was participated in by representatives of both the medical and the liberal arts faculties of representative New York institutions. In continuation of the study, a suggested outline was prepared and sent to many leading educators.

Results of Discussion.—For convenience, the theme was called the "Combined Baccalaureate and Medical Course," and it seemed uniformly agreed:

1. That the baccalaureate degree should meet the university ordinances now in force, i. e., be granted on four full years of collegiate work, subsequent to at least three years' high school preparation or the equivalent.

2. That the combined baccalaureate and medical course should consist of seven full years of baccalaureate and medical work.

3. That subjects the full equivalent of the present first medical year should be found in the college and high school course.

Discussion by Correspondence.—The first question on conclusion 3 was: Is there a practical unit of measure for the first medical year, or can one be determined? And the second: Can the medical schools readjust their curricula so as to admit to the second medical year graduates of registered colleges that present the full requirements of the first medical year, tested by that unit?

In order to determine whether the medical schools and colleges of New York state could agree on such a unit of measure, an outlined first medical year's requirements in anatomy, biologic sciences, chemistry, physics and physiology was carefully prepared by representatives of the medical profession and schools and sent to representatives of the independent medical schools to the universities maintaining both departments, and to independent colleges.

From the replies received, I quote the following representative of each:

President Stryker of Hamilton College, representing the independent colleges, writes: "As to our courses in the subjects named you will nowhere find more thorough college courses in the physical sciences And our teachers are strongly-equipped men, doing still work A student can have 353 hours in biology, exclusive of sophomore year, 235 hours in chemistry, and 198 hours in physics We can give a man all that is called for Surely, we meet all you ask"

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* Read at the annual meeting of the Association of American Medical Colleges, Atlantic City, N. J., June 6, 1904.

[1] See Regents's Bulletin, No. 58.

President Wilson, Princeton writes "We do not here in Princeton believe in the principle of combining the baccalaureate and *medical courses* *We have not*, therefore studied out the proper details for such a combination '

Dr Raymond of the Long Island College Hospital representing the independent medical school through members of his faculty, writes "I can see no reason why the courses in physiology as now given in the L I C H can not be rearranged so as to harmonize with the plans suggested I approve of the course in anatomy as outlined I heartily approve of the plan outlined is a proper course in chemistry and physics"

Dr Albert Vander Veer of the Albany Medical College writes in answer to the question "Is the work too severe for the majority of the medical schools?' 'No 'Is the time devoted to instruction in laboratory work properly proportioned? "It is all right" "Can your medical school adjust its curriculum?' "It is going to be very difficult for us to arrange the subjects of anatomy and physiology but these are conditions that will arrange themselves in due time There must be a concession on the part of colleges as well as medical schools and this question will have to be studied with a great deal of care I admire the caution but firmness with which you are handling it"

President J G Schurman of Cornell University, representing an institution that maintains both faculties writes "It seems to me that there is more need of the extension of the course from four years to five than of the substitution of the work proposed '

Dean Polk of the medical faculty writes "You see that I would make the reason for shortening the course not the possession of an A B degree, which might mean anything or so far as medical study is concerned•nothing, but the previous mastery of the sciences embraced in the medical curriculum of the state of New York"

Dean Didama of Syracuse University writes "The full equivalent of the present first medical year can not be found in the college and high school course This university provides a joint baccalaureate and medical course of seven years If either course is to be shortened for the benefit of the other it should be the baccalaureate and not the medical"

Dean Richardson of Harvard University says "Students who can finish, or practically finish, the requirements for a degree in three years, which usually takes four, but prefer waiting until a later period for graduation may be admitted to this school with the understanding that their degrees will be received the following year"

Dean Smith of Yale says "The year's work is not too severe for any medical school to which college graduates would be likely to go The proportion of laboratory work is less than we devote to analogous subjects It does not seem practicable to change our curriculum"

Dean Charles H Frazier of the University of Pennsylvania writes "First-class medical schools, willing to admit students to their second year, should not regard the specified requirements as too severe The required hours of laboratory work are inadequate Three years ago this school recast its curriculum, adopting the 'semiconcentration' system"

Dean Vaughan of the University of Michigan says The year's work is not too severe for medical schools I do not think that the proportion between hours devoted to instruction and laboratory work is good I do not think it would be possible for a student having taken the course as outlined in some literary school to finish his medical work with us in three years'

Dean Dodson of Rush Medical College writes 'From the point of view of this institution it seems to me that your board has undertaken a difficult if not impossible, task'

Dean Ritchie of University of Minnesota writes "The work is not too severe for our school As laid down, it is not equivalent to the work done in our laboratories If we were inclined to admit the A B s to our second year, our state board of examiners would not permit it"

Dr Charles McIntyre of American Academy of Medicine says "I see no reason why it should be too severe for the majority of medical schools If the hours of lectures are supposed to be text-book work with recitations the ratio between the lecture and the laboratory work is a fair one It will require some readjustment of the medical curriculum"

These replies are samples that can be increased both in number and length

PROPOSITIONS

1 If credit is to be given to institutions without the state of New York more accurate registration, both of the college course and the medical course is essential To illustrate this proposition from the state board standpoint let me quote from a recent letter and its reply

Letter—Will you have the kindness to advise me by return mail as to your knowledge of the University of Sciences Francis Joseph at Kalozvar, Hungary, concerning the degree of Universal Medical Science?

Reply—It gives me pleasure to inform you that the Royal Hungarian University Francis Joseph is located at Klausenburg, Hungary, has a medical faculty of 12 full professors, an attendance of 106 medical students in 1901 02 The *program of actual* studies *for the doctorate calls for ten semesters* On completing the studies, candidates enter on three examinations for the doctorate, in the presence of a commisison composed of specialized professors, under the presidency of the dean of the faculty A candidate satisfactorily passing this examination receives the degree of Doctor Medicinæ Universæ Admission to the practice of medicine in Hungary is obtained at the end of the examinations for the doctorate, as in France, *and differs from* Germany, *where the state examination*, independent of the university examination, is obligatory

Let another testify concerning college degrees U S *Consul James H* Worman, Munich, *Bavaria*, writes regarding American academic honors

On the assumption of consular duties in Munich, in 1899, I *found* that American academic honors were a subject of general discussion in Germany So many German possessors of the American doctor title were illiterate persons that university men from our best institutions were looked at askance A careful inquiry into the whole matter soon disclosed a lamentable state of affairs in some states at home In the criminal history of the United States these cases will some day figure as evidences of official corruption of the most daring character Has not the time come for an earnest and united effort of the American colleges, the educational associations, state and national, and all other bodies interested in the good repute of American scholastic and professional institutions, to harmonious action in the states of our Union for such legislation that will bring the degree-conferring power under strict state supervision' A council of educators should be entrusted with powers similar to those vested in the regents of the University of the state of New York, this council to be composed of the most eminent men in the state without any reference to political considerations Further, that no degree conferring institution should be incorporated without the approval of this council of education In the self same spirit the legal section of the American Bar Association resolved, in 1897, that the degree conferring power should be subject to a strict state supervision to be exercised in a manner somewhat similar to that which is exercised by the regents of the University of the State of New York

The provision under the laws of New York to which these various propositions refer absolutely prevents any abuse by the academic or professional institutions of the state of their power to confer degrees

2 Accurate registration is dependent both on examinations and inspection

Pio A Da—— submitted a certificate from the University of Montevideo, Uruguay, to the University of ———, United States, and was admitted to the class of 1904 The certificate showed entrance examinations for admission to secondary studies and secondary subjects as follows

Algebra	3
First and second year French	6
Physics, parts one and two	4
Chemistry, part one	2
First and second year philosophy	3
Total, a year and a half in high school work	18

Consul Worman says, regarding the kind of legislation state boards should effect

> The authority vested in the inspector of education has in many states not been exercised on behalf of the professional schools and colleges Its exercise should be exacted of him by the profession in each state where such an official exists for the supervision of educational and professional institutions Where legislation is necessary to make the authority sufficiently abundant to suppress illegal acts by incorporated institutions, it should be urged by the profession without delay and with persistency Europeans, and especially the Germans, look on our whole educational fabric with distrust because of the swindling institutions that have been possible in certain states The courts, weary of distinguishing between the true and the false have ruled out all of them as private enterprises

To illustrate another phase of the necessity of accurate registration, dependent both on examination and inspection, I quote from another recent letter from a state of Australia

> The information furnished by you will be most useful to this board, and I am directed to convey the thanks of the members for your courtesy in the matter
>
> In future no application for registration from Americans who do not possess the certificate granted by your university will be entertained by this board Any British qualification is registerable in this state, but the board reserve to themselves the right of refusing to register any foreign qualification
>
> The rules regarding registration in the other states are practically the same, with the exception that no American qualifications are registerable in Queensland, and no foreign qualifications whatever in Western Australia
>
> I shall be glad if you will furnish me annually with a list of registered and accredited colleges of America for the guidance of this board

3 Reciprocity between states must be based on actual requirements met by licensees and a uniform minimum statutory requirement for all states of the Union is at present impracticable

To illustrate A practicing physician of the state of New York, having met requirements plainly above those of a neighboring state, was compelled by declining health to remove to that neighboring state to save her life She was dependent on her practice for her livelihood and could enter on a profitable practice if she could secure the requisite license The reciprocity clause of the statute in force in the state to which she would remove provided for reciprocity between states that conferred the same privileges on its licensees There was no question regarding her professional attainment She was denied the right to practice in the new state because the state from which she planned to move could not reciprocate the favor conferred on her by registration in the state to which she would have moved for the purpose of saving her life

4 State control should concern itself with the minimum statutory requirement for admission to practice, i e, the licentiate credential, and leave to the schools the determination of the maximum scholastic i e the degree

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THE VALUE OF THE CONVERSATIONAL METHOD OF MEDICAL INSTRUCTION

THE 'STUDENTS' CONFERENCE'

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The methods of medical pedagogy have undergone many changes during the last twenty-five years, the most important being that the antiquated didactic method of teaching has in a large measure given place to practical clinical and laboratory teaching Some excellent authorities now advocate the complete abandonment of the didactic method, recommending that in its place certain text-book readings shall be assigned to the student, and that demonstrations and conferences between the teachers and pupils covering this subject-matter shall constitute the essential part of the instruction It has always seemed to me illogical to entirely do away with the didactic method, which I believe occupies an important and indispensable place in medical pedagogy, first, because there are many subjects that can be far better treated didactically than practically, second, because new and controversial matters can be far better summarized and treated by the professor whose business it is to familiarize himself with the advances of the subject than acquired by the student from text-books and third, because an enthusiastic and alert teacher can arouse the interest of his pupils by presenting his subject to them in a systematic, attractive and logical manner

I do not wish to be misconstrued to favor reversion to the didactic method exclusively I simply favor what I conceive to be an essential amount of didactic teaching, to be supplemented by work in the laboratory and by conferences

Nearly all of our ideas are based on opinion rather than on experience and it was with much interest that I availed myself of an unusual opportunity to demonstrate practically and statistically the value of the conference method of teaching

In the Medico-Chirurgical College of Philadelphia during the years 1903 and 1904 the sophomore class of the medical department was divided into two sections for practical work in the laboratories The section schedule was arranged in such a manner that during the first half of the college year one section remained unoccupied for one hour each week, and in the second half of the college year the other section was unoccupied during the same hour In order that his time should not be lost, I decided to utilize it for conferences

The sophomore students who were to receive this advantage attend two didactic lectures on general pathology each week throughout the college year, perform about 150 hours *practical work in the pathologic laboratory*, and about 80 hours practical work in the bacteriologic laboratory Two examinations were held during the year—one immediately after the Christmas vacation and one at the end of the course in the month of May

The division of the class into two sections was made according to their matriculation and the men of the two sections should have averaged about the same in their intellectual abilities

Section A was benefited by the conferences from the opening of the session to the mid-year examination Other than this there was perfect uniformity in the instruction received by both sections Forty-five men took the examination which was written and was a severe test carefully conducted The average mark attained was 82, the highest mark 98 the lowest mark 37 Taken by tens the marks ran as follows

100 to 90	16 men
90 to 80	12 men
80 to 70	7 men
70 to 60	6 men
60 to 50	men
50 to 40	0 men
40 to 30	1 man

In the same examination the men of section B, of whom there were forty-nine taking the examination and who had had *no conferences made an average mark of* 70 The highest mark attained was 100 the lowest 35 Taking this section by tens we find a striking difference which ran as follows

Between	100 and 90	there were	9 men
Between	90 and 80	there were	6 men
Between	80 and 70	there were	9 men
Between	70 and 60	there were	12 men
Between	60 and 50	there were	11 men
Between	50 and 40	there were	0 men
Between	40 and 30	there were	2 men

We thus find that the difference between the average mark attained by the men of section A who had conferences, and that of the men of section B who had none was 12 points in favor of section A This seemed to show how great an advantage the men gained through conferences, but the question, of course arose whether this was not an accidental difference depending on variation in the intellectuality of the two sections We notice, however, that the highest mark made in this examination—viz, 100—was made by a man in section B who had had no conferences, also that the lowest mark —35—was also made by a man in section B It is very striking that in section A, 16 men should receive marks above 90, but that in section B only 9 men should receive marks above 90, that in section A only 4 men should receive marks less than 60, but that in section B there should be 13

In order to make an accurate comparison between these sections, determine their comparative intelligence and ascertain whether the conference was the cause of the extraordinary variation in the marks, the questions in the final written examination of the year were arranged to cover only subject-matter that had been taught in the second half of the year By this means it will be observed that the results obtained by section A in its examination, covering a period during which its men had had conferences could be accurately compared with those of section B, covering the period and subject-matter on which its men had had the conferences

When we come to study the effects of the conferences on section B, as shown in this final examination, we find two possible sources of error, the first being that the final examination was a little more severe than the mid-year examination, and the second, that the men are apt to prepare more carefully for the final than the *mid-year* examination

Forty-seven men in section B took the examination, the average mark being 75 the highest mark 97 and the lowest 21

Between	90 and 100	there were	11 men
Between	80 and 90	there were	11 men
Between	70 and 80	there were	6 men
Between	60 and 70	there were	13 men
Between	50 and 60	there were	2 men
Between	40 and 50	there were	3 men
Between	30 and 40	there were	1 man

It will be noticed that the best man in this section who had received 100 at the trial examination, made only 97 at the final, and that the poorest man received 21 instead of 35 This seems to indicate that the final examination was more severe than the mid-year examination which will be borne out by subsequent demonstration The number of men receiving between 80 and 100 has increased to 22 over 15 in the mid-year examination, the number receiving less than 60 is 20, against 17 in the mid-year examination but the general average of the whole section has been raised 5 points This, taken by itself, is extremely suggestive, though not convincing, but when we turn to the results of section A in the final examination we are left no room to doubt the immense value of the conference method of teaching Of the forty-four men of section A taking the final ex*amination, the average mark was* 66, instead of 82, as in the mid-year examination The highest mark was 96, instead of 98 the lowest mark was 21 instead of 37

COMPARISON OF MARKS

	Final Examination	Mid year Examination
Between 100 and 90	5	16
Between 90 and 80	7	12
Between 80 and 70	8	7
Between 70 and 60	10	6
Between 60 and 50	7	3
Between 50 and 40		0
Between 40 and 30	2	1
Between 30 and 20	2	0

In the mid-year examination there were only 4 men with marks below 60, but in the final examination there were 14 The average intelligence of section A seems to have been a trifle greater than section B, for the average of all of the marks for section A in both examinations is 74 and the average of all the marks of section B in both examinations 72 5 The conferences during the last half of the year increased the average mark of the men in section B from 70 in the mid-year examination to 75 in the final examination, while section A, whose men attained a general average of 82 in the mid-year examination, lost an average of 16 points each, attaining a general average of only 66 in the final examination The final examination was more severe than the mid-year examination, as is shown by the fact that in the former the ninety-one men taking the examination made an average mark of 71, whereas the ninety-four men taking the latter examination made an average mark of 76

The total variation in the two sections, therefore, is determined by adding the loss of section A to the gain of section B, which equals an average of 21 points per man in favor of the men who had the conferences

It seems to me that no better demonstration of the value of a conference can be given than is shown by these statistics

Lest some one should misunderstand exactly what is meant by the term "conference" as here employed, it may be well to add a few words in explanation The class of students and the professor met in a small lecture room, and all sat down There is a certain pleasant informality about a seated professor that is wholesome on such occasions

A leading question was asked a student whose name was chosen from the list of the class, and by auxiliary questions the thoroughness of his understanding of the subject was brought out If it were shown by the answers that his knowledge was defective, another student was asked to point out the error In this manner, by asking a few students many questions and by permitting the students themselves to ask any number of questions, by immediately passing over matter that was understood and carefully explaining what was not understood, by endeavoring to determine why erroneous ideas were conceived, and by sound reasoning to bring the student's mind back to the correct channel of thought, the class progressed from day to day to a more and more thorough intelligence of the philosophy of the subject, so that they were easily able to cope with ordinary problems

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THE ELECTIVE SYSTEM IN MEDICAL SCHOOLS

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With the growth of the curriculum in our medical schools, the urgent necessity has arisen of either lengthening the number of years of medical study from four to five, or of so adapting ourselves to the needs of the medical student that some way must be found out of the difficulty

This increase in the number of subjects of study has arisen in two ways 1 The development of the various laboratory subjects (and by this I include anatomy, physiology, histology, chemistry and pathology) has necessitated the devotion of practically the entire first two, to so-called theoretical branches leaving the practical branch to the last two years 2 The rapid development of the special branches of both medicine and surgery (gynecology is included in the latter), has taxed the number of hours in the school year to the utmost An effort has been made in some schools to correct this latter growth, that is, practical branches, by dropping didactic lectures entirely and devoting the third and fourth years almost exclusively to demonstrations and clinical work at the bedside or in the dispensary, or hospital amphitheater Even with the latter change, the medical schools in our larger cities have found it impossible to give every student the necessary personal contact with both teacher and patient, which is the prerequisite of thorough medical education When we consider that the classes in our larger medical schools average from 150 to 200 in the junior and senior years, respectively it will be readily seen that the old-fashioned amphitheater clinics can no longer be profitable to either teacher or student I have stated above that we must find some way out of the difficulty and I am firmly convinced that the proper application of the elective system of our medical curriculum will solve this problem better than any other method In an article written by me two years ago I strongly advocated this system from a merely theoretical standpoint Since the publication of my article the elective system has been adopted by the college with which I am connected, and after one year's trial both faculty and students agree that it has been a great success The reason for this success has been that we have not applied the elective system without restriction It was thought by our faculty that the limited application of election on the part of the students would be of far greater value than if they were permitted to select both teachers and subjects without some guidance In the first place, we have applied the elective system to the third and fourth years only During the first and second years the student, as in other schools, takes up his anatomy, physiology, chemistry, materia medica, histology, biology, embryology, therapeutics, surgical pathology, hygiene and bacteriology, in a more or less routine manner, so as to get a thorough foundation for the more practical work of the following two years In addition to these laboratory subjects, elementary clinics, as they were called, were held by the professors of the third and fourth years twice a week When the students enter the third and fourth years they find the following schedule

JUNIOR YEAR

SPECIFIED REQUIRED SUBJECTS

		Hours
1	Neurology	72
2	Physical diagnosis	54
3	Dermatology	36
4	Principles and practice of surgery	144
5	Orthopedic surgery	36
6	Operative surgery	36
7	Laryngology rhinology and otology	36
8	Genito-urinary diseases	36
9	Clinical Anatomy	36
10	Microscopic and chemical diagnosis	66
11	Medical Jurisprudence	36
12	Autopsies	36
13	Dispensary clinics	54
		678

ELECTIVE SUBJECTS

1	Medicine (didactic work) lectures and recitations in four courses of 54 hours each Course A Infectious diseases and intoxications Course B Constitutional diseases and diseases of the kidneys Course C Diseases of the digestive organs Course D Diseases of the heart and lungs Total	216
2	Obstetrics	72
3	Gynecology	36
4	Medical amphitheater clinics	216
5	Neurologic amphitheater clinics	72
6	Surgical amphitheater clinics	180
7	Dermatologic amphitheater clinics	72
8	Laryngologic amphitheater clinics	72
9	Gynecologic amphitheater clinics	144
		1 080
	Total number of hours	1 758

SENIOR YEAR

SPECIFIED REQUIRED SUBJECTS

		Hours
1	Medicine	216
2	Psychiatry	36
3	Chest diseases	36
4	Pediatrics	54
5	Ophthalmology	18
6	Obstetrics	72
7	Gynecology	36
8	Autopsies	36
9	Dispensary clinics	54
		558

ELECTIVE SUBJECTS

1	Neurology	72
2	Surgery	72
3	Medical amphitheater clinics	252
4	Neurologic amphitheater clinics	72
5	Pediatric amphitheater clinics	72
6	Surgical amphitheater clinics	468
7	Ophthalmologic amphitheater clinics	108
8	Gynecologic amphitheater clinics	108
		1 224
	Total number of hours	1 782

In the junior year a total of 1 758 hours of instruction are offered and in the senior year a total of 1 782 hours Of this, 1,000 hours of instruction constitutes the year's work Each student is required to take all of the specified subjects in his year, in the junior year these subjects amount to 678 hours, the remaining 328 hours he can make up from the elective subjects, exercising to a large extent his own choice in the selection of subjects which he will take In the senior year the specified required subjects amount to about 558 hours, the remaining 112 hours may be selected from the elective subjects and clinics Even in this selection the student receives some guidance so that he must include among his elective subjects at least 120 hours of medical clinics and 120 hours of surgical clinics Clinics in diseases of the chest nervous system, pediatrics and dermatology are classified as medical At the time of registration the student is required to designate subjects which he elects in order to complete his 1,000 hours and will not be enrolled in the classes until his course has been approved by the secretary of the college The secretary has authority to refuse to approve of the course elected by any student when for any reason it seems to him not well selected

By a reference to the above table it will be noted that surgery is compulsory in the junior year but is elective in the senior year, and vice versa medicine, gynecology and obstetrics are elective in the junior year but are compulsory in the senior year

What are the benefits of this privilege of election on the part of the student? He can so adapt his time in both years that he will not be obliged to sit on the benches in the lecture room or in the clinical amphitheater from morning till night By a careful selection of clinical work he will have ample time to study and yet be able to have a full curriculum and not slight any subject -

In addition to this it gives the student more time to do special research work if he is prepared for this during his undergraduate period This power of election on the part of the students especially in the direction of clinical work, has had its reciprocal beneficial influence in all of the schools in which it has been applied on the faculty The moment a clinician is aware of the fact that the size of his audience is more or less directly dependent on his ability as a teacher he will make a greater effort to increase the same by a more careful study of his cases so that he will not be accused of being careless in his work He will acquire greater thoroughness in his surgical procedures Nothing acts as a greater stimulus to teachers than this elective system and once introduced, I am certain it will continue to find favor in every large medical school

In this manner a large number of students can find ample clinical and didactic work The college can also utilize to the best advantage all of its clinical facilities within its own walls or in hospitals contiguous to it At the same time, through this power of selecting where he wishes to take some of his clinical work, the abundant material which exists in hospitals and dispensaries at some distance from the main seat of learning can be used to the mutual advantage of the student and of the attending staffs of these extramural institutions

In my opinion, the elective system carefully applied is a stimulus to both teacher and student It enables a college with large junior and senior classes to so distribute its students that no clinic is overcrowded, and there is a resultant individualization which is not possible in large classes

THE TEACHING OF MATERIA MEDICA IN MEDICAL SCHOOLS

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DESIRABILITY OF RESTRICTING THE COURSE OF MATERIA MEDICA

> I must confess, if I had my way I should abolish materia medica[1] altogether Not one trace of a knowledge of drugs has remained in my memory from that time to this, and really, as a matter of common sense, I can not understand the arguments for obliging a medical man to know all about drugs and where they come from Why not make him belong to the Iron and Steel Institute, and learn something about cutlery, because he uses knives?"
>
> "I entertain a very strong conviction that any one who adds to medical education one iota or tittle beyond what is absolutely necessary is guilty of a very grave offense"—Huxley, On Medical Education," 1870

Everyone will agree with this last sentence In most medical schools the required class attendance exceeds thirty hours per week, leaving the student a very insufficient time for home study This condition tends naturally to become worse, for the domain of medical knowledge is constantly extending and the teaching must follow these extensions It is, therefore, imperative to lighten the curriculum as much as possible by curtailing such studies as are no longer essential

A case in point is presented by the relation of pharmacology materia medica and therapeutics The study of the action of drugs by laboratory methods is a new branch and one which requires considerable time, which must be taken from some other subjects It is very true that a knowledge of pharmacology facilitates the study of therapeutics so greatly that a part of the time formerly devoted to therapeutics can be assigned to pharmacology without injury The saving thus effected, is not, however sufficient What further time is needed can be profitably drawn from materia medica (including pharmacy) if the course in these branches is wisely reorganized This can be readily done especially if they are taught in the same department as pharmacology as they should be, in my opinion

No one can doubt that the action of drugs is of vastly greater importance to the medical practitioner than their natural history The latter can only be of essential importance when the physician is located remote from a pharmacist a condition which is rather rare in this country Nothing prevents those who expect to be so situated from taking a special, optional course, and such should be offered by the college if it is needed Were there no other demand on the students' time, an exhaustive course of materia medica might be profitable to all other students, but there can be no question that the other demands are more important Indeed, I incline to the belief that the above advice of Huxley has not been sufficiently heeded by many schools doubtless because it is somewhat too radical

WHAT PARTS OF MATERIA MEDICA SHOULD BE RETAINED?

How far, then may the study of materia medica be safely curtailed? What is essential? What may be made optional and what omitted entirely? There is surely room for much honest difference of opinion in this connection I venture to give my views, as they may serve as a basis for reflection.

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[1] It will I hope be understood that I do not include therapeutics under this head

I believe that the students should be given by way of introduction, some general ideas about the classes of chemical and structural constituents of drugs. Sufficient botany should have been learned in school and zoology is quite superfluous. The systems of weights and measures should be made thoroughly familiar. In regard to pharmacy, the student should learn the different classes of pharmaceutic preparations, their common characteristics and special uses and he should be given (by demonstration) a broad conception of how they are prepared. A little practice in simple dispensing is very desirable. All these data will be invaluable aids in understanding the materia medica of special drugs.

As regards the latter, only those should be discussed at all which have a real living therapeutic or toxicologic importance. Of the former the student should be required to know in the first place, those data which are needed in prescribing. The correct Latin name (faulty orthography indicates a faulty education in materia medica as elsewhere) the methods of administration the most useful preparations *and these only!*² Their dose solubility incompatibility and in a few cases their composition constituents should be taught only in so far as important therapeutically or by incompatibility.

Furthermore I believe that there should be required considerable familiarity with the appearance and other physical characters of the important drugs and their principal preparations so that the more common poisons may be identified or excluded. This seems to me very important and I believe that I lay rather more stress on it than is commonly done. The knowledge so obtained is also very valuable in that it often enables the physician to adapt the medicine to the peculiarities of the patient and sometimes to prevent the results of an error on the part of a druggist. I require this acquaintance rather oftener in the case of preparations than of crude drugs. I need hardly add that a good deal of discrimination must be exercised in selecting the drugs to be studied. The study must of course be made directly from the specimen.

It will be seen that the principal abridgment which I advocate in the teaching of materia medica concerns the number of drugs and preparations to be studied neglecting all those—and they are quite numerous—which are unimportant.³ A further saving is obtained by limiting pharmacy and by paying no attention to habitat natural order method of collection etc. These are quite useless for practical purposes, and those students who are interested in them can easily find the information. The natural orders are sometimes useful in explaining relationships but these can be touched on in pharmacology. In this way and by arranging the course as indicated below the class work in materia medica and pharmacy may be reduced to something like forty-five hours. Beside this required work I believe that a more thorough study of the chemistry of drugs and of pharmacy is very useful not so much by the direct knowledge which they give, but because the handling of drugs which they require gives a greater familiarity. This advantage is not sufficient, to my mind, to make them compulsory, but they may be offered as elective or optional work.

ARRANGEMENT OF THE INSTRUCTION

The dryness of materia medica is almost proverbial and it is, indeed, difficult to render interesting a study which consists so largely of memorizing. This difficulty is enhanced by constituting the subject into a separate course, as is so often done, and especially by letting this course precede that of pharmacology or therapeutics. What interest can there be for the student in memorizing certain tabulated information which he does not fully understand, about a drug which too often, he has never seen, and about the uses of which he has no clear idea? What opportunities I have had of observing have only confirmed my objections to this plan. I believe that only the preliminary subjects of pharmacy, etc. should be taught separately and that the materia medica of the individual drugs should be studied immediately *after* their action and uses. It is my practice to give the student his first experience with drugs by letting him use them in the laboratory, as this is the most efficient way of arousing his interest and showing him the importance of the drug. When he has in this way obtained an objective knowledge of the effects of most drugs and has become curious to have them explained their action is studied systematically in class and after each lecture the students are supplied with the specimens of drugs with instructions to describe them again objectively, in their notebooks. Around this nucleus the other information is grouped. In this way the interesting parts of the study carry the more mechanical parts so that these are less felt. It will be noticed that lectures are not emphasized in this schema. If there is any study in which formal lectures are misplaced this is certainly materia medica. The subject is taught with us almost purely by laboratory work and recitations.

DETAILS OF THE INSTRUCTION

The course of instruction in my department begins with a talk on the gross and histologic structure of drugs, illustrated by the demonstration of specimens and some thirty microscopic slides (two hours).' This is followed by chemic laboratory work on the important classes of plant constituents (two and a half hours). Then comes a demonstration on metrology (one hour) with a sufficient number of short drills. The general pharmaceutic methods (distillation percolation, etc.), are demonstrated as also the manufacture of the important classes of preparations tinctures fluid extracts, etc. (one and a half hours). The students are required to put up a series of prescriptions including pills, emulsions etc. (two hours). This subject is covered by about seven hours of recitation. Several topics are then taken up which do not interest us in this connection (incompatibility prescription writing toxicology). This brings us to special materia medica. The locally acting drugs are studied first so as not to anticipate the laboratory course.

I have already mentioned that the materia medica is studied in connection with the pharmacology. After hearing the lecture on a pharmacologic group of drugs the students are required to enter the important data of materia medica in a special notebook. This may be done in a separate laboratory hour or the lecture may be correspondingly shortened according to the number of drugs to be studied. The compilation of a special notebook has a number of advantages. It encourages the study of the specimens because correct descriptions must be given it can be made more concise than an

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[2] There is some excuse for the pharmacopeia retaining obsolete drugs and preparations because these are sometimes used in certain localities or by the laity but there is no reason for burdening medical students with them. It is to be wished that all state boards would discourage such questions as "Give *all* the preparations of."

[3] This refers only to materia medica. It is often desirable to say a few words about the action of these unimportant drugs in the lectures on pharmacology.

text-book, and the mechanical act of writing, like drawing, is a powerful aid to memory

It is suggested (but not required) that the notebook be of quarto size, and that the information be entered under the following columns Latin name, English name, if of vegetable origin, the part of the plant used and chief constituents, appearance, odor, taste, mixable with water, with alcohol, dose, remarks (strength, etc, when asked for) The appearance, odor and taste should be described from the actual specimen All the important specimens for each pharmacologic group are exposed at a convenient place in the lecture room or laboratory, and left there until their study is entirely completed With large classes of students it would probably be convenient to have duplicate sets of specimens Each bottle should be labeled not only with the name of the drug, but also with the information whether it can be tasted freely with caution or not at all (I employ printed green blue and red labels for this) I also have the bottles labeled "important' or 'identification The latter are the specimens which the student must be able to identify at examination They comprise only those important drugs which may be readily recognized Those which would be difficult are merely marked "important" These the student must know so that when asked whether one of them *may* be such or such a drug (say potassium bromid) he can give an intelligent answer Colored illustrations of the more important drugs and herbarium specimens of the domestic medicinal plants especially those of toxicologic interest are also exhibited at the same time Unimportant drugs are not exhibited at all a notice being posted indicating where they may be found in the museum should anyone be interested

THE MUSEUM

The specimens in the museum should be arranged on the shelves by the groups in which they are studied All the important and identification specimens should be on one side of each shelf or it might be useful to have a duplicate set of these in a special case The curator may save himself considerable time by having the bottles numbered so that each will have a definite place, a laboratory boy can then replace them readily after they have been used The numbering may be done by the decimal system and a card index kept for instance Acid Salicyl 78 12, being found in case seven shelf eight twelfth bottle

I have had the cases constructed along the wall of the corridor leading to the laboratory, where the students are obliged to pass them frequently—on the supposition that they will, consciously and unconsciously, glance over the drugs The doors of the cases are kept unlocked

It will be seen the plan of teaching materia medica which I have adopted relies mainly on the individual exertion of the student The function of the instructor is limited to frequent short recitations, periodic inspection of the notebooks and occasional tests The latter are especially valuable for insuring an interest in the study

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Resignation of Albert Fraenkel—Professor Fraenkel has been privat docent of internal medicine at Berlin for thirty years, and has borne the empty title of professor for the last fifteen He has now resigned these positions, weary of waiting, perhaps for the full rank of a professor He is a nephew and was an assistant of Traube, and is one of the most prominent investigators in internal medicine, especially in lung affections His lectures were very popular, especially among physicians taking postgraduate courses in Berlin

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CLAY MODELING IN THE STUDY OF ANATOMY *

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BALTIMORE

"It would be difficult to overrate the value of anatomic knowledge to every class of medical men, physicians as well as surgeons, and every one knows that this knowledge can never be acquired to any desirable degree of accuracy except by those who labor for it with the scalpel in their hands" This remark, made by Dr Samuel Chew in 1864, is especially applicable to the student of the present day Not alone is the scalpel necessary in order to comprehend the structure of the human body but the microscope, modeling, drawing, the study of serial sections, and other accessories must be utilized to make clear what to most students is a difficult and ofttimes an uninteresting subject Only one of the many helps in the study of anatomy will be presented in this

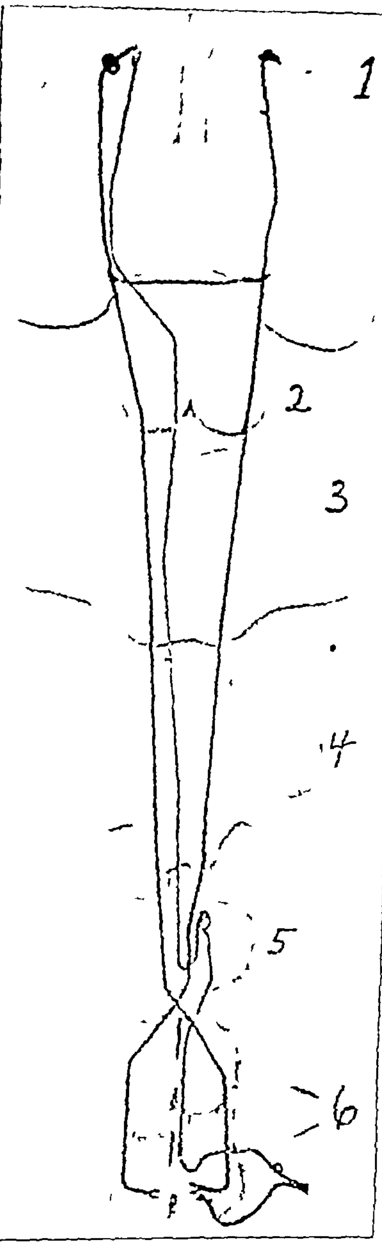

Fig 1—Motor and sensory conduction paths of the central nervous system, showing the peripheral and central neurons in a diagrammatic manner 1 Transverse sections of cerebrum 2 Mid brain 3 Pons 4 Upper medulla 5 Lower medulla 6 Spinal cord (Modeled by a member of the sophomore class)

paper, namely, the use of clay modeling in the study of anatomy

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* Read before the Section on Neurology and Psychiatry of the Medical and Chirurgical Faculty of Maryland

The modeling of bones from clay was first practiced at the Johns Hopkins Medical School Since then it has been used at the Baltimore Medical College by Dr Sydney Cone in teaching osteology,[1] also at the University of Chicago[2] and at the University of California[3] At the latter school, Prof J Marshall Flint has used the method to record and preserve permanently the muscular variations found in the dissecting room[4] If this method is used in other schools I have not been able to find any report of the work

The method I wish especially to describe is the application of clay modeling to the central nervous system The study of the macroscopic and microscopic anatomy of the brain and cord has been very diligently pursued during the past decade, while the subject has received more attention in the college curriculum than heretofore The importance of teaching the subject to medical students can hardly be overestimated, as a thorough knowledge of the anatomy and physiology of the central nervous system lies at the foundation of organic nervous diseases Dr M Allen Starr in his recent text-book on "Organic Nervous Diseases," remarks "As the knowledge of the centers and tracts has grown as their location and action have been made clear, the meaning of symptoms previously perplexing has become plain" As a matter of fact, it is simply impossible to have a clear and concise picture of a disease of the nervous system without first understanding the structure of the part affected The ideal way to accomplish this result would be to study, first, the gross anatomy of the brain and cord, and, second, to make serial sections in the three dimensions, transverse, horizontal and longitudinal, stained by the Weigert-Pal method, and study them carefully, not neglecting, of course, the study of the nerve cell and the neuroglia by the various staining methods, as the Nissl, Bethe, Bende and many others

This necessitates not only a great deal of time, but also a vast amount of material and work In fact, it is not practical in the medical course as now arranged, and is really post-graduate work The best we may hope to do in the short time given this subject in most medical schools is to give the student a general idea of the subject and try to stimulate him to personal investigation after his college work is completed and he has time for research work

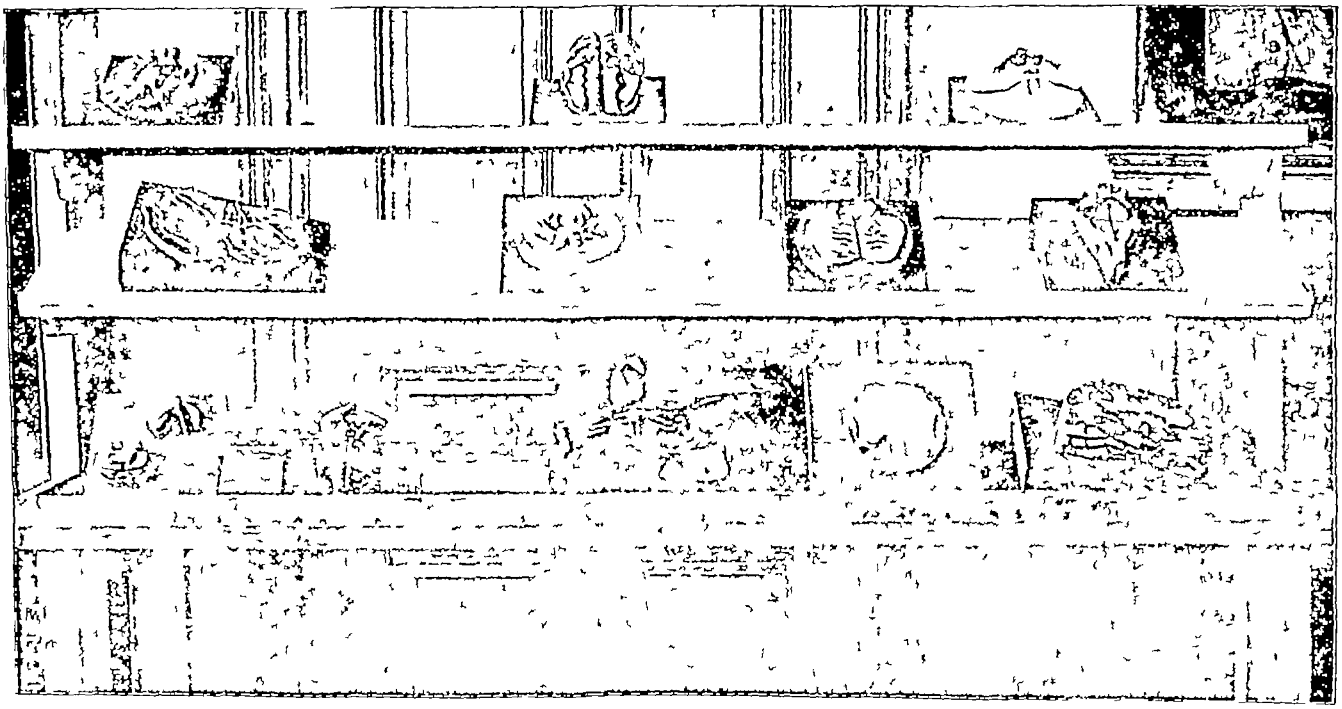

Fig 2—Modeling table on which are models made by members of the Class 05 Beginning with the upper row the first model on the right represents the base of the brain and cranial nerves 2 The cerebral hemispheres with fissures convolutions and motor areas colored 3 A horizontal section of the cerebrum, basal ganglia, internal capsule etc represented by various colors 4 (Middle row right side) A dorsal view of the medulla, pons and mid brain showing the fourth ventricle position of nuclei of cranial nerves funiculi of medulla etc 5 A transverse section of the pons the longitudinal fibers are elevated 6 A cross section of the mid brain the important structures are in relief 7 A transverse section of the upper medulla the arcuate fibers represented by various colors of floss olivary bodies nuclei etc raised 8 (Third row right side) A view of the mesial aspect of the left cerebral hemisphere 9 A cross section of the spinal cord gray matter in relief motor cells and tracts in different colors 10 A longitudinal section of the medulla pons and mid brain showing the position of the nuclei of the cranial nerves from the third to the twelfth and their superficial origin The nerve fibers are represented by floss 11 Ventral surface of medulla pons and mid brain 12 Superior and inferior surfaces of cerebellum Lobes and fissures in colors

The system of clay modeling tends to create an interest in this branch by presenting to the student's mind a realistic picture of a part that is otherwise very obscure when taught only from text-books or drawings It requires the men to think for themselves, to use their several special senses, and when molding the various specimens, form in their minds a number of impressions that otherwise would be received only through the auditory and visual pathways These multiple mental impressions serve to produce a lasting picture that will be easily retained Dr J Marshall Flint very forcibly states this idea in the following words "Every one apparently carries in his sensorium a very good stereognostic sense which is easily developed by a little training

To the student the advantage of the method lies in the

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[1] Johns Hopkins Hospital Bulletin vol xiii p 143
[2] Univ Record, vol vii No 3
[3] Johns Hopkins Hospital Bulletin vol xiv p 78
[4] Journal of Medical Research vol viii p 406

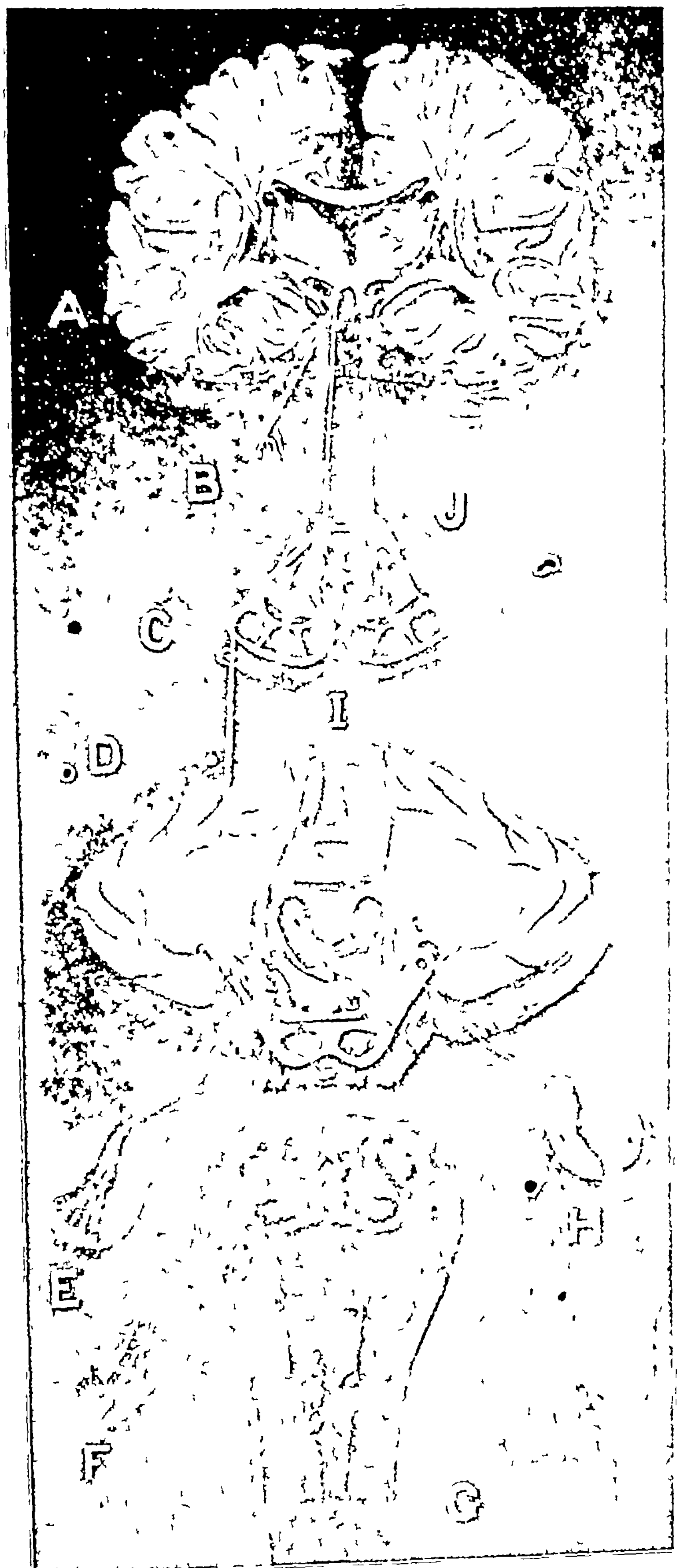

Fig 3—An original clay model of the central nervous system to represent the origin and course of the motor and sensory path ways and the relation of the nuclei of origin and of termination of the cranial nerves to these pathways also the peripheral or ganglionic origin of the fifth eighth ninth and tenth nerves This model was designed by the writer and executed by Messrs Canino, Summerbell and Wasson of the Class of '05 As the color scheme of this model is not shown in the photograph its simplicity and clearness of detail can not be appreciated A Transverse section of cerebrum, through the middle commissure B Internal geniculate body auditory way station C Section of mid brain, path ways elevated D Transverse section of pons and cerebellum E Gasserian ganglion, under surface with the three branches and motor root F The ganglia of the ninth and tenth nerves, showing the relation of the ninth, tenth and eleventh nerves just outside of the jugular foramen G The ventral surface of the medulla, above is seen a transverse section through the olives below is a section of the spinal cord after the decussation of the pyramids H The ganglionic origin of the acoustic nerve The entire course of this nerve is shown on the model, from the periphery to the temporal lobe of the brain I Nervus oculomotorius J Nervus trochlearis

fact that he registers not only repeated visual images necessitated by the close study required to make a replica, but also utilizes his tactile sense and muscle sense as well The superiority of the modeling over drawing lies in the fact that arbitrary laws of perspective are not required, and the student has the advantage of having his record of the subject in three dimensions, just as it exists in nature"[5] The practice of sketching microscopic sections of the nervous system is, of course, a great help to the student, but it does not give him an idea of the part in three dimensions, a point that Dr Lewellys F Barker emphasized so strongly in his lectures on the anatomy of the nervous system at the Hopkins in 1898 The value of a reproduction of a part of the nervous system in three dimensions is beautifully shown in the Sabin model of the medulla[6]

The models made by the method advocated in this paper are at best crude, and are not to be compared to the artistic and realistic specimens produced by the Born reconstruction method[7] This latter method requires a great deal of careful and exact work and is hardly practical for the average medical student Bardeen speaks of this method as being "cumbersome and time-consuming" "Yet by no other method," he says "can so accurate an idea be obtained of the form of those structures which from their minuteness or complexity of relation, can not well be dissected out"[8]

The study of the central nervous system is confined as a rule to the sophomore year During the session Weigert-Pal specimens of the brain and cord are projected on a large screen before the entire class, and the minute anatomy described, models and drawings being utilized whenever necessary After the student has completed his dissecting he then begins to model certain portions of the central nervous system selected by the instructor The ordinary potter's clay is used The advantage of this kind of clay over the oil clay that is sometimes used, is that it hardens after a few days, when the models can be shellacked, colored and retained as permanent museum preparations, or kept by the students to study from if, however, it is desired to use the clay again, or keep it soft a longer time, it is easily accomplished by adding water to the clay and then kneading it well, or keeping a wet cloth over the model, which renders it pliable and easy to handle until the model is finished, when it quickly hardens again The models are made, not by being copied from stock preparations, but from actual gross specimens of the brain, which have been preserved in formalin, or, when modeling microscopic sections, showing the different tracts, etc, the student is allowed to refer to the drawing in the book or to the microscopic section under the dissecting microscope

Models of microscopic sections are generally enlarged two or three times and a definite proportion maintained throughout the series All important structures, such as the various tracts, the gray matter of the cord, the nuclei of the medulla and mid-brain, are elevated above the reticular formation To show the entire course of pathways different colored floss is used By this means the origin, course and termination of the various tracts is readily seen, as in Figures 1 and 3 The time usually required for the work varies from two to six weeks, depending on the facility with which the student completes the task

When the modeling is finished the instructor reviews the subject with each student and criticizes the models The best specimens are selected for the museum case, are uniformly colored, labeled and remain college property, thereby forming a valuable collection at a very nominal cost This also acts as an incentive for the students to do careful work, when they realize that their efforts are appreciated and their models, if good, remain as evidence of something real and substantial accomplished

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[5] Journal of Medical Research vol viii p 496

[6] Atlas of the Medulla and Mid brain by Florence Sabin

[7] Johns Hopkins Hospital Bulletin vol xii

[8] Loc cit

The real advantage of this method is that it serves to impress on the mind of the student information in a tangible and realistic manner It has been said that the knowledge that a man can use is the only real knowledge, the only knowledge which has life and growth in it and converts itself into practical power If this method does nothing more than stamp indelibly on the student's mind the essential facts of the structure of the nervous system, it will not have been used in vain The general idea obtained by this method will form a foundation for their future studies and on which a more elaborate superstructure may be erected

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A PLEA FOR A STANDARD MEDICAL CURRICULUM *

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My experience as dean during the last few years impels me to make a strong plea for the unification of curricula in medical schools You, with other representatives of medical colleges, will recall the fact that the state medical examining and licensing boards differ widely in the minimum standard requirements for license to practice medicine, and no sooner have we adapted our curricula to the requirements of one state when we are confronted with another adjustment of studies to meet the demands of another state, and failure to do so means refusal of recognition of the school, and the holder of our diploma is not even permitted to appear for examination I venture to say that nearly every school had to make changes last year in order to comply with the requirements of the state of Michigan

We all admit that the problem of the medical university is to supply the community with competent medical men, and that it is the duty of the state examining boards to see that none but qualified men are licensed to practice one of the most difficult and responsible of all professions, hence the necessity of a reasonable standard of medical qualifications

Fortunately, we have adopted a minimum standard of preliminary education required for the study of medicine, and we should formulate a similar standard of medical education, based on uniform curricula

With a fixed minimum standard for admission, and a definite course of medical studies, with the prescribed number of hours of didactic and practical work in each branch, we may hope for a more uniform product, and if this product should reach the requirements of some of our best state examining boards, the way to reciprocity between the boards will be open, and much time and annoyance will be saved in the transfer of students from one school to another

A review of the examinations for medical licensure presented in a very able report by Dr Charles McIntire to the American Academy of Medicine May 11 1903 shows that during the year 1902 4 510 applicants were examined, of these 3,781 passed and 729, or about 16 per cent, failed The failures are not confined to graduates from indifferent schools, but include men from nearly every reputable school in this country, such as Harvard (1—117), Johns Hopkins (1—45), Columbia (9—173), Cornell (6—53), University of Pennsylvania (8—178), University of Michigan (9—77), University of Minnesota (2—86), University of Virginia (2—28), and Rush Medical College (6—232)

The conclusions to be drawn from such a result are 1, That our products are not up to the standard adopted by some of the state licensing boards, 2, that the applicants have deteriorated since graduation, 3, that in some instances the candidates have passed the college examinations by dishonest methods

A study of Dr McIntire's paper on "The Personal Equation in Examinations for Licensure," read before the American Academy of Medicine in 1902, demonstrates that the charge frequently made against state examining boards that they are too severe in their exactions is not true, for the returns of papers marked by college professors and members of such boards show a remarkable uniformity in this, that with hardly an exception the men who failed would not have been licensed by any of the boards or faculties making returns, and as a matter of fact the colleges were more severe in their markings than the boards But whatever the cause these painful facts confront us, and the sooner the subject is thoroughly investigated the better it will be for medical education and the ultimate welfare of our graduates I represent a small school, but should hail with delight any schedule of studies which would result in a well-rounded medical education, and I am sure every college represented in this association will cheerfully join in an effort to secure the desired end

It is not a simple problem, when we consider the widely divergent views entertained as to the best methods of teaching and the time allotted the study of various subjects, but it seems to me that we may profit by the experience of the older schools, and, without wishing to make any invidious comparison, I may say that, in the judgment of Major Borden, a very competent and discriminating observer, the most harmoniously educated candidates for admission into the Army medical corps were graduates from the University of Pennsylvania His judgment may be considered absolutely impartial for he is not an alumnus of that school, and was then as now a teacher in the school with which I am connected

How can we expect a harmonious product, when the very exhaustive report by Dr George W Webster, chairman of the Committee on Curriculum of the National Confederation of State Medical Examining and Licensing Boards, published in THE JOURNAL of the American Medical Association, Aug 15 1903, shows that the total hours vary from 5,000 in some to a little over 2,000 in other schools The time devoted to clinical instruction varies from 2,000 to a little over 200 hours, over 500 hours are devoted to the subject of chemistry in some schools, and less than half as many in others, anatomy varies from over 1,200 as a maximum to 200 as a minimum One school devotes over 400 hours to the study of physiology, while another has less than 100, medicine has over 1,200 hours in one and less than 200 in another In other schools such important subjects as physical diagnosis, pharmacology etiology and hygiene are not taught at all

Impressed with Dr Borden's observations and determined to profit by the experience of other schools a

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*Read at the annual meeting of the Association of American Medical Colleges, Atlantic City N J June 6 1904 close examination of their method and the arrangement of studies was made and we have adjusted our curriculum accordingly

The demands of modern medicine are so exacting that the curricula in vogue fifteen twenty or thirty years ago in some of our best colleges no longer suffice to turn out a scientific physician, and I mean by that, a man who, because of his knowledge of the sciences on which medicine is founded has such a firm grasp and a clear comprehension of his subject matter as will enable him to become not only a successful practitioner, but also an intelligent student of progressive medicine

The foundation sciences of medicine are physics, chemistry biology, anatomy, bacteriology, physiology and pathology

A knowledge of physics as applied to medicine is essential as has been well said by Professor Vaughan in the application of all mechanical means for the correction of deformities for the treatment of fractures and dislocations for the study of errors of refraction, and in the use of the microscope ophthalmoscope, laryngoscope x-ray apparatus etc, and its general importance is appreciated by the leading medical universities of Europe It should be taught in the first year of the medical course We devote 10 hours to this subject We give 114 hours of chemistry in the first year half of which are devoted to practical laboratory work The time devoted to embryology, histology, osteology, general anatomy and physiology is shown by the table Materia medica very properly should be studied in connection with the biologic sciences during the first year

In the second year anatomy, physiology and chemistry including physiologic, medical toxicologic and sanitary chemistry are completed, and bacteriology pathology and pharmacology are begun, 24 hours are devoted to minor surgery

The student having acquired a fair knowledge of his foundation studies during the first two years, after additional instruction in pathology and physical diagnosis is now prepared to enter on the study of medicine surgery, obstetrics, gynecology, neurology and therapeutics, while a study of hygiene, which is the application of the laws of physiology, chemistry, physics, meteorology, pathology epidemiology and bacteriology to the maintenance of the health and life of individuals and communities, is not only necessary for the prevention, but also the cure, of diseases and serves the additional purpose of reviewing and applying the knowledge of the sciences just mentioned

All of the practical subjects, such as medicine, pediatrics, surgery, operative surgery obstetrics, gynecology, neurology and mental diseases, extend over a period of two years and are taught simultaneously to third and fourth year students both didactically and at the bedside

In the fourth year, in addition to the practical branches, we give our students special instructions in dermatology and syphilis, genito-urinary diseases, laryngology, rhinology, ophthalmology and otology military surgery, state medicine, morbid anatomy and medical zoology The course in medical zoology has special reference to the animal parasites in the human subject, supplemented by practical laboratory exercises in the microscopic examination of meat for trichinæ spiralis, and of feces for determining the presence of parasites, and we have found this course very helpful to our students and of extreme practical importance As a matter of fact, one of our graduates Dr Ashford was the first to demonstrate that the grave forms of anemias found in Porto Rico are due to uncinaria Americana, the hook-worm disease has been found by Dr Stiles to be quite frequent in our southern states, and we all know how frequently trichinasis is mistaken for typhoid fever

Our association was established for the purpose of promoting medical education, and yet, instead of leading others into the right path, we have been driven by the state medical examining boards and a strong public opinion, as manifested by the American Medical Association, to raise our standard of minimum requirements for admission into medical colleges New Hampshire, New York Pennsylvania, Ohio, Indiana, Illinois, New Mexico and Colorado practically demanded a higher standard long before we raised it, and, as a result, the diplomas of some schools are not recognized, and graduates from such schools can not appear for examination

More recently Illinois and Michigan have taken the initiative in establishing a minimum standard of medical education, and the example of these states is very certain to be followed by others in the near future If we wish to retain the confidence and respect of the American medical profession, it is our duty to equip our graduates in such a manner that their diplomas will not be discredited by any state in the Union, because, in the opinion of the board, the school granting it does not fulfill the established minimum standard of medical education Apart from the moral and ethical aspects of the question, however, I believe it will be in the highest degree good business policy to appoint a committee, which should co-operate with a similar committee appointed from the National Confederation of State Medical Examining and Licensing Boards, for the purpose of establishing such a standard

There are now 154 colleges in the United States Of these, 121 are regular and only 66 are members of the Association of American Medical Colleges The number of students vary from 6 to 1,047 in the different schools It seems to me that if the methods of teaching were more uniform the students would be more evenly distributed, which would be an advantage to students and schools alike There is much to be said in favor of small schools, where the number of students does not exceed 250, or from 60 to 70 in a class, as it enables each student to come into more intimate relation with the teachers in laboratory and hospital work and in connection with the system of recitations and conferences, which should be a part of the curriculum, makes instruction more personal and adapted to the special needs of the individual The time must come—indeed, it is close at hand—when the advantage of smaller classes will be appreciated, provided we are prepared to do honest and thorough work

It must be obvious that the reason some schools have too many students and others so few is due to the respective estimate of the relative merit in which they are held by the members of the medical profession, who are usually appealed to as referees by prospective medical students I can not agree with those who believe that there should be a different standard in different schools and who consider it a Utopian idea to expect that all the medical schools in the country should be based on a uniform curriculum any more than the various colleges or academies It seems to me that the standards of state boards are no higher for the graduates of these schools than for those of the smaller schools, all must possess the same qualification The subject of graduate work is another question There is, of course, no reason why schools engaged in turning out specialists and teachers should not vary their curricula with the special needs of the student

I realize that the weakness of our smaller schools lies not so much in the lack of funds or endowments as in the lack of methods It does not require expensive and pretentious buildings to do the work, but it does require competent men and proper laboratory equipment and clinical facilities

Fortunately, men always will be found in the profession willing to work in the interest of higher medical education, regardless of pecuniary reward My own school has no endowment whatever, it being the only school in Washington which abolished night sessions ten years ago, resulting as was anticipated, in financial losses, but we have the satisfaction of knowing that our product has improved We have only 140 students, but in spite of this we have equipped our laboratories and established a university hospital

The present cost of microscopes chemical, bacteriologic and physiologic apparatus puts them within the reach of every school A complete set of physiologic apparatus, sufficient for ten to fifteen students, can be purchased for $75 00 from the Harvard University four sets would be quite ample in a class of 40 to 60 students One microscope for every two students will answer very well until the funds will permit an instrument for every student, which, of course, is more desirable It goes without saying that no school should be permitted to enter our ranks unless it is properly equipped, and no school should give courses in junior and senior studies unless it has also suitable facilities for clinical teaching When this is done, will anyone deny that the school with 250 students will not turn out as good, if not a better, product than the large schools? How many times in our large schools is the average student called to the operating table to witness a cataract operation or abdominal section at close quarters, or to examine the patient before an operation and give to the professor and the class his opinion as to the pathology diagnosis and methods of treatment? What is true of the surgical is equally true of the medical cases

The time will come when all schools will be great, not in numbers, but in the quality of the product, and when this is accomplished I predict there will also be a leveling in the number of students The average American is too practical to travel thousands of miles when he can secure equal or possibly superior, advantages nearer home Another advantage from a purely business point of view will be the disintegration and abandonment of projected schools unwilling to bring their institutions up to a reasonable standard Who will patronize a school whose diploma is discredited by the majority of state examining boards, and who will dare to establish a new school unless fully equal to meet the requirements? If they should be established, the state boards will take such action as will prevent their doing any mischief

We do not need more schools, but we need better schools Every advantage is to be gained by the smaller schools from a uniform standard of curricula, and there is no good reason why we should not all survive in the face of an ever-growing and powerful nation, especially when there will be a more equal distribution of students with improved methods of instruction All had a humble beginning, but by perseverance and honest work we may hope to reach the same high plane of efficiency which some have attained Progress has crowned our past Let our conduct raise no blush on the cheek of posterity

Compulsory action is always to be deprecated, and yet this stares us in the face, on the other hand, much good can be accomplished by a joint deliberation between the colleges and the state boards of medical examiners, and the formation of a standard of medical education arranged in a logical order, specifying the minimum number of hours required in each study, and which will meet the views of the educator as well as the licensing boards

In order to comply with the requirements of the Michigan State Board of Examiners, we have arranged a schedule for the Medical School of Georgetown University, which is at least suggestive

It will be seen that the requirements do not differ materially from the average obtained in 43 medical colleges in the United States, and is really in excess of the standard curriculum recommended by a special committee of the National Confederation of State Examining and Licensing Boards, which places the minimum requirement at 3,600 hours

The requirements of the Michigan State Board of 4,240 hours may be considered excessive, and might with advantage be reduced to 4,000 hours, devoting about 950 hours to each of the first two years' work and 1,150 hours each to third and fourth year work

I have purposely devoted less time to freshman and sophomore studies, as the acquisition of the sciences taught during the first two years really involves more of a mental strain than the work of the third and fourth year

CURRICULUM AT THE SCHOOL OF MEDICINE GEORGETOWN UNIVERSITY

Based on the 4 200 hour standard prescribed by the Medical Examining Board of the State of Michigan in force during the session of 1903 1904

	Lecture	Laboratory work	Total
First Year—			
Physics	20	20	40
Chemistry	72	72	144
Osteology	24		24
Anatomy	150	180	330
Histology	24	100	124
Embryology	85	50	85
Physiology	75	40	115
Materia Medica	34	12	46
	434	474	908
Second Year—			
Anatomy	100	104	204
Physiology	120	40	160
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	60	120	180
Pharmacology	45	15	60
Minor surgery	12	12	24
	459	487	946
Third Year—			
Pathology	38	38	76
Clinical microscopy		62	62
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orth surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90		90
Hygiene and dietetics	40		40
	548	606	1154
Fourth Year—			
Morbid anatomy and medical zoology	45	45	90
Medicine	90	180	270
Surgery	120	125	245
Orthop surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Electro-therapeutics	12	12	24
Laryng and rhinology	24	48	72
Opthalm and otology	30	60	90
Dermatology and syphilis	12	24	36
Genito-urinary diseases	18	18	36
State medicine	30		30
	515	677	1192

First year	908
Second year	946
Third year	1154
Fourth year	1192
	4200

Physics		40
Chemistry		312
Anatomy		558
Histology and embryology		200
Physiology		275
Materia medica pharmacology and therapeutics		196
Bacteriology		150
Pathology		256
Clinical microscopy		62
Morbid anatomy and medical zoology		90
Physical diagnosis		72
Medicine		540
Surgery	514	
Orthop surgery	48	
		562
Obstetrics		160
Gynecology		168
Pediatrics		90
Dermatology and syphilis		30
Genito-urinary diseases		36
Laryng and rhinology		72
Opthalmology and otology		90
Neurology		72
Mental diseases		60
Electro therapeutics		24
Hygiene and dietetics		40
State medicine		30
		4200

PROPOSED STANDARD OF A 4 000 HOURS' MEDICAL COURSE

First Year—	Lectures and Recitations	Laboratory Work	Total
Physics	20	20	40
Chemistry	72	72	144
Osteology	24		24
Anatomy	120	172	292
Histology	24	100	124
Embryology	35	50	85
Physiology	105	40	145
Materia medica	34	12	46
	434	466	900
Second Year—			
Anatomy	106	78	184
Physiology	90	40	130
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	62	140	202
Pharmacology	45	15	60
Minor surgery	12	12	24
	437	481	918

Third Year—	Lectures and Recitations	Laboratory or Clinical Work	Total
Pathology (morbid anatomy and medical zoology)	38	42	80
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90		90
Hygiene and dietetics	36		36
	544	448	1 092
Fourth Year—			
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	50	74
Neurology	18	18	36
Mental Diseases	15	15	30
Electro therapeutics	12	12	24
Laryngology and rhinology	24	48	72
Ophthalmology and Otology	30	60	90
Dermatology and Syphilis	15	25	40
Genito urinary diseases	15	15	30
State medicine	30		30
	470	620	1 090

First year	900
Second year	918
Third year	1 092
Fourth year	1 090
	4 000

CONCLUSION

In conclusion let me reiterate that I represent a small, struggling medical school and if I differ from the views expressed by others, I do so with great hesitation Apart from the ethical aspect and the imperative demands for reform throughout the medical profession I consider it in the highest degree good business policy to advocate a plan which will improve the quality of the product and equalize the number of students a result which can not fail to be acceptable to the larger schools and extremely profitable to the smaller schools and I therefore beg to offer the following resolution

Resolved That a Committee on National Uniformity of Curricula be appointed to co operate with a similar committee appointed by the National Confederation of State Medical Examining and Licensing Boards for the purpose of presenting a minimum standard of medical education together with such recommendations as the committee may deem proper as to the division of the subjects in a four year graded course Said report to be presented at the next annual meeting and to be printed and distributed at least one month before said meeting

COMPARATIVE STANDARDS OF MEDICAL EDUCATION

Subjects	Proposed Standard			Average 43 Colleges	Michigan	Georgetown Present Standard	State Medical Exam Standard
	Lecture	Laboratory	Total				
Physics	20	20	40				
Chemistry and Toxicology	144	168	312	375	350	352	340
Anatomy	250	250	500	519	400	558	500
Histology and Embryology	50	159	209	219	200	209	200
Physiology	195	80	275	276	260	275	250
Materia Medica Pharmacology and Therapeutics	169	27	196	118	234	196	110
Bacteriology	50	100	150	131	230	150	115
Pathology	100	182	282	295	220	256	260
Morbid Anatomy and Medical Zoology						90	
Physical Diagnosis	36	36	72	61	120	72	55
Medicine	180	360	540	514	540	540	500
Surgery and Orthop Surgery	276	286	562	596	510	562	540
Obstetrics	100	60	160	177	100	160	150
Gynecology	48	110	158	145	220	168	130
Pediatrics	30	60	90	72	110	90	60
Dermatology and Syphilis	15	25	40	64	60	36	50
Genito Urinary Diseases	15	15	30		90	36	
Laryngology and Rhinology	24	48	72	67	260	72	55
Ophthalmology and Otology	30	60	90	106		90	95
Neurology	36	36	72	82	120	72	75
Mental Diseases	30	30	60	27		60	25
Electro Therapeutics	12	12	24		20	24	
State Medicine	30		30		30	30	
Hygiene and Dietetics	36		36	33	54	40	30
Clinical Microscopy					72	62	
	1885	2115	4000	3937	4240	4200	3540

CASE OF TETANUS SUCCESSFULLY TREATED BY ASPIRATION OF THE CEREBROSPINAL FLUID AND INJECTION OF MORPHIN-EUCAIN AND SALT SOLUTION

JOHN B MURPHY A.M , M D
CHICAGO

History—Alex S , aged 8 years, was admitted to Mercy Hospital July 10, 1904 He is one of eight *healthy children* and has had no previous illness Seven days preceding admission while crossing a dirty street, he stepped on a piece of glass, cutting his foot in two places He received no medical treatment, except that the foot was washed by his father and applications made of a lotion and of antiphlogistin This was prescribed by a physician without seeing the case Five days later (six days after the accident) stiffness of the jaw began and he was seen for the first time by a physician At this time he had had for twenty four hours pronounced trismus, and spasm of the muscles of the neck, with occasionally contraction of the muscles of the back, but not severe There had been no chills fever nor sweats There was little redness or irritation around the wounds

Hospital Examination—When admitted to the hospital there was a wound one inch and a half long on the outer aspect of the anterior portion of the foot, and a smaller wound on the inner side near the heel The trismus was pronounced and every three to five minutes there was contraction of the muscles of the back with pronounced opisthotonos

Surgical Treatment—The patient was anesthetized The anterior wound appeared healed, but on separating the edges a piece of glass and some debris were found in it A smaller piece of glass with pus was found in the posterior wound These had been there for seven days The pus was examined for tetanus bacilli and none found, an anaerobic culture was made with no result. The wounds were curetted, cauterized with a 95 per cent solution of carbolic acid and packed with iodoform gauze The patient slept a short time after the anesthetic Then the convulsions came on every ten to fifteen minutes and lasted one to three minutes His temperature was 99 8 degrees, pulse 110

Treatment by Antitetanic Serum—On July 11 he was given three full doses of antitetanic serum, without effect The convulsions increased in frequency and were almost continuous

Treatment by Morphin Eucain Injections—On the morning of July 13 a lumbar puncture was made and 16 c.c of cerebrospinal fluid withdrawn It was cloudy in its appearance to the naked eye At the same time through the needle 3 c c of the following solution were injected into the subarachnoid space

R	B eucain	gr iss		00
	Morphin sulphate	gr 1/3		02
	Sodium chloridi	gr iii		18
	Distilled water	℥iiss	105	

This had been sterilized by boiling The patient slept four hours immediately following the injection and through the night slept an hour and a half at a time The spasms were of shorter duration and he had only eight in the succeeding twenty four hours His temperature the evening of July 13 was 102 degrees and his pulse 120

Course and Recovery—On July 14 a spasm occurred at about 4 a m which was the most severe he had had since the injection At 11 a m another puncture was made and 15 c c of fluid withdrawn This looked comparatively clear Four c c of the above solution were again injected He slept four hours following this injection Pulse was 100, temperature 100 degrees He had eight spasms between this and noon of the following day, July 15, when they began to increase in frequency The spinal canal was again punctured 15 c c of fluid withdrawn and 4 c c of the morphin eucain solution injected He had no spasm until late in the afternoon and only an occasional mild spasm through the night. At noon July 16 15 c c of fluid were withdrawn and 4 c c of the solution injected

July 17 his condition was so good that no injection was made In the night the spasmodic contractions again occurred and by the next morning they were being repeated every hour though of mild severity He could now talk well and had had a good night's rest On July 19 the usual aspiration and injection were made. On July 20 he had a few very mild spasms

On the morning of July 21 the spasms were a little more severe although at intervals of three or four hours At noon there was another aspiration and injection made Following this there was no spasm, his condition improved the trismus gradually subsided and he was discharged cured July 31

THE DOSAGE

It will be noted that the quantity of morphin in each injection was 1/75 of a grain, and of eucain 3/50 of a grain These were extremely small doses, and as it was my first case I feared to increase the quantity There was no sweating headache nor collapse symptoms so frequently noted after injections of cocain for spinal analgesia It will be recalled that at the time cocain was first used for analgesic purposes it was believed the injection of any solution in the spinal canal would produce these symptoms The injections immediately relaxed the spinal muscles, and they remained relaxed for considerable periods of time, hence the patient had a good opportunity to sleep and rest from the time he received the first injection It is my belief that the strength of the eucain portion of the solution should be increased so the patient would receive 1/6 or even 1/3 of a grain with each injection Furthermore that the aspirations and injections might be repeated with greater frequency There seemed to be no ill effect from the withdrawal of the fluid, and after the third day the fluid showed no polynuclear leucocytes

SUGGESTIONS FOR FUTURE CASES

I believe eucain is much safer than cocain, first, because it admits of boiling for sterilization, and second. because there is less idiosyncrasy to intoxication As these patients die, many of them from exhaustion from the spasms, and some from the severity of the spasms of the respiratory muscles themselves, I feel that this can be entirely overcome with the injections I have not had an opportunity to try it on other cases, and publish this merely as a preliminary report—as this is the season in which tetanus is most frequent—that others may be induced to try it I do not know whether the benefit was attributable to the extraction of the cerebrospinal fluid or to the injection of the solution, or both The fact the fluid withdrawn on the first, second and third days contained pus, and after that none, would lead one to believe that possibly the diminution of pressure in the cerebrospinal cavities aided the fluid in overcoming the infection, just as in epidemic cerebrospinal meningitis, repeated spinal puncture relieves the pressure and gives the greatest percentage of recoveries

There is no reason why the cerebrospinal cavities cannot be washed out in severe infections with salt or other neutralizing solutions by the following method which I shall put into practice in the first case of cerebrospinal meningitis coming under my observations First, make a drill puncture of the cranium over the lateral ventricle, insert a fine needle until the cerebrospinal fluid escapes, second, insert a needle into the spinal canal in the lumbar region and allow a normal salt solution to flow, under hydrostatic pressure, from the needle in the right ventricle down through the foramen of Magendie and the spinal canal, to, and out of the needle in the lumbar area This can be accomplished on the cadaver, as I have demonstrated Permanent drainage of the cerebrospinal canal has been almost uniformly fatal and should not be instituted

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART I A HISTORICAL SKETCH

(*Continued from Page 408*)

(C) DR HAMILTON'S ADMINISTRATION (1879 1891)

In 1879 Surgeon-General Woodworth died, and was succeeded by Surgeon John B Hamilton The new head of the service vigorously pursued the policy inaugurated by his predecessor in office The regulations were revised and brought up to date, embodying the substance of circulars and orders issued since 1873 Stricter accountability for public property, improved discipline greater amount of relief furnished at a relatively less cost, and greater accuracy in the medical statistics were the objects attained by rigid enforcement of regulations

During the first four years of Dr Hamilton's administration the National Board of Health, created by the law of 1879, was in active existence, and the public-health work of the service did not increase in consequence The law under which the National Board of

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EDITOR'S NOTE.—This article began July 30 The Army Medical Department was discussed May 7 14 21 28 and June 4

Health operated expired by limitation, June 2, 1883, and the Marine-Hospital Service took charge of national quarantine and public-health matters under the quarantine law of 1878, which then became operative A contingent appropriation was made by Congress for the prevention of the introduction and spread of epidemic diseases and the maintenance of quarantine at points of danger This appropriation supplied the necessary funds for quarantine and epidemic work, which the quarantine law of 1878 failed to provide

In 1881 the assignment and collection of the hospital tax from seamen was abolished, and the same act provided that "the expense of maintaining the Marine-Hospital Service should hereafter be borne by the United States out of the receipts from duty on tonnage provided for by this act, and so much thereof as may be necessary is hereby appropriated for that purpose '

In January, 1886, Surgeon-General Hamilton reresumed the publication of the "Weekly Abstract of Sanitary Reports," as required by the act of 1878, which had been temporarily suspended during the activity of the National Board of Health

The quarantine stations which were established by the National Board of Health were mainly refuge stations and when the service took charge of these in 1883, their equipment was deficient Surgeon-General Hamilton recommended that "the national quarantine stations be made permanent, and that they be equipped with all the necessary appliances known to modern sanitary science for the treatment of infected vessels and their cargoes, so that not only may immunity from the importation of contagious diseases be secured at those stations, but such security be had with the least possible obstruction to commerce" In 1888 a law was passed perfecting the national quarantine system on the Atlantic and Gulf coasts, and providing for the establishment of three stations on the Pacific coast An appropriation of $500,000 was made to carry out the purposes of this act

During the first year of Surgeon-General Hamilton's administration, the Secretary of the Treasury issued a circular which specified that all persons applying for either renewal of license or original license as pilots of steam vessels should be required to undergo a visual examination, to determine the presence or absence of color blindness, and that the examination should be made by a medical officer of the Marine-Hospital Service, whose certificate of good color sense should be essential to the issuance of a license

Surgeon-General Hamilton provided a "Handbook for the Ship's Medicine Chest," for the guidance of masters of vessels carrying no doctor Section 4569 of the Revised Statutes compelled the carrying of a medicine chest by such vessels, but neither specified what the contents should be nor provided instructions for its use This "Handbook" supplied the deficiency, gave lists of necessary medicines, and in simple language directed the masters what to do when skilled medical assistance was unobtainable

During this period the medical officers were required to report not only on the sanitary conditions of their hospital, but also on existing conditions in the cities in which they were stationed The hygiene of the merchant marine continued to receive the attention of the service, and from the control of outbreaks of smallpox or other contagious disease among sailors especially on western lakes and rivers, it was but a short stride to the supervision of local epidemics and the prevention of their spread

The service assisted the local authorities in controlling the epidemics of yellow fever in Florida and Texas in 1882, and in all subsequent epidemics have succeeded by the detention camp in preventing the spread of the disease without resorting to 'shotgun' quarantine

The first detention camp was established (1888) on the south bank of St Mary's River (the boundary between Georgia and Florida), and was called Camp Perry Refuge camps near infected cities were not new but an inland quarantine where suspects were detained only long enough to demonstrate that they were not infected and then permitted to proceed north was a novel procedure at this time

In 1889 the Secretary of the Treasury detailed Surgeon-General Hamilton to attend the Sixteenth International Medical Congress at Berlin, Germany, and to study European hospital construction The surgeon general visited may large European cities, studied their hospitals, and made an exhaustive and critical report on the systems employed in their construction

The regulations of the service since the reorganization required that all applicants for the service should be examined by a board of officers, and appointed to the lowest grade, that of assistant surgeon The examinations were severe and the standard of excellence demanded was high, and in consequence 80 per cent of the applicants were rejected The surgeon general considered statutory provision confirming the regulations on this point necessary for the maintenance of this high standard of excellence, and in 1889 Congress enacted that, after passing a satisfactory examination before a board of service officers, the applicant was to be commissioned by the President by and with the advice and consent of the Senate, appointment to the service to be made only to the lowest grade that of assistant surgeon

Assistant surgeons were to be promoted to the rank of passed assistant surgeon after four years' service and the passing of an examination, and promotion to the rank of surgeon only after due examination

To provide additional protection to the country at large in preventing the spread of contagious disease from one state or territory to another, the interstate quarantine law of 1890 was passed by Congress In June 1891, Supervising Surgeon-General Hamilton resigned, and was succeeded by Surgeon Walter Wyman who was then chief of the quarantine division

(To be continued)

TRAVEL NOTES

IV *

LEPROSY IN THE HAWAIIAN ISLANDS THE PROPOSED ESTABLISHMENT OF A GOVERNMENT BACTERIOLOGIC INSTITUTE

NICHOLAS SENN, M D
CHICAGO

HONOLULU, July 14 1904

The inhabitants of the beautiful Hawaiian Islands, comparatively free from the devastating infectious diseases so long as they enjoyed the blessings of isolation from the outside world, have been made painfully aware of the dangers of the dissemination of disease from man to man They have experienced the benefits and blessings as well as the evils and curses arising to them from a new civilization brought to their

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* The first article in this series, "Travel as a Means of Post Graduate Medical Education ' by Dr Nicholas Senn appeared in THE JOURNAL, July 23, page 261 the second "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr Lewellys F Barker July 30 page 328, the third 'Spain and Ramon y Cajal," by Dr Lewellys F Barker, Aug 6 p 403

palm clad shores by white men in search of
fabulous wealth Some fifty years ago the
leprosy came to the little island empire f
Orient As usual with the primitive peoples of
the South Sea this dreadful disease found a
natives, with so little resistance to all inf
acute or chronic It spread with alarming r
became evident unless rigid measures were
way of absolute and early segregation, that f
alone, the entire population would become pra
in less than half a century In 1860 the num
lepers had reached 105, in 1876, 677, in 1886,
1,100, and when I visited the Molokai settlem
later I found that the number of lepers had

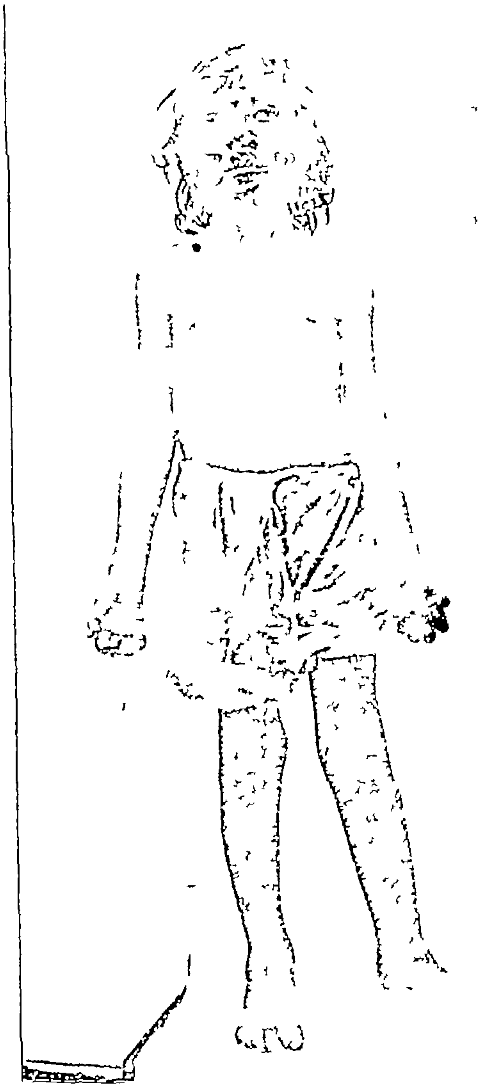


Fig 1—Tubercular leprosy in a young

When I visited the islands a second time I w
the number of lepers, owing to the fearful
them, had been reduced to 1,100 The nat
lepers is shown by a report made in 1898,
984 were natives, 62 half castes, 32 chinese,

SEGREGATION

When it was found necessary to enforce
mission was appointed to select the most f
climatic and otherwise, for the unfortunate
mission acted wisely in selecting a tongue like
island of Molokai, isolated on two sides by
the remaining part of the island by an
cliff, the Pali 2 000 feet in height, which is

of
to
to
is
rel
exil
lep
tam
for
Th
pu

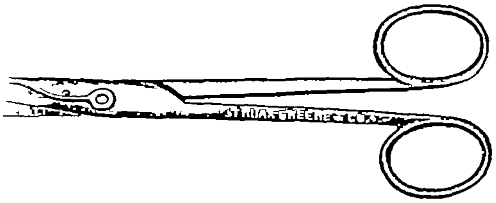
was given large doses of zinc phosphid and sul
rychnia for the tonic effect. On his entering the
was discovered that anything hot was soothing to
lieved his pain, hot water was then tried, to which
gum camphor, 5 grains to a pint of hot water, he
k at times two to three pints of this with great re-
ocal application of a large mustard plaster over the
men gave relief at times Total abstinence from all
followed by improvement, and he has since been put
ly vegetable diet, with no return of symptoms It
that hot water with small doses of camphor gum
relief It is worthy of a trial

New Instrument.

SCISSORS AND SUTURE REMOVER IN ONE INSTRUMENT

A E BENJAMIN, M.D
tor in Gynecology College of Medicine and Surgery
University of Minnesota.
MINNEAPOLIS

ary for a great many surgeons to stitch up
the cervix with non absorbable sutures, such as
Lacerations of the perineum are more fre-
up with such material When such sutures are
difficult to remove them The reasons for this
Sutures within the cervix are deeply situated,
lly not sufficient light, 3, sutures occasionally
th congested, inflamed or overlapping tissue,
little room to work, 5, it is difficult to use two
hin the vagina, viz., one to hold the end of the
scissors to cut the sutures, 6, the view is ob
it is difficult to secure the suture without
tio vaginalis A few of these difficulties are
moving perineal sutures
me that a combined instrument might be
e sutures could be hooked up, cut and with
the same instrument Such an instrument I
cted. It consists of an ordinary 7 in straight



th a hooked point on the lower blade. On the flat
is hooked point is fastened a block of steel about
in inch wide, corresponding with the curve of the
tending ½ of an inch along the flat surface of the
de, and fastened a little below the level of the cutting
The hooked point is rounded and dulled so that it
t wound the soft tissues A spring, extending to the
of the upper blade, is fastened by the screw holding the
blades It has a surface at its extremity to correspond
the curve and width of the block on the lower blade. Two
a little in front of the screw, hold the spring, making it
above and below The opposing surface of the spring and
are roughened so as to hold the suture firmly This is
necessary for silk sutures A suture that is to be re
is caught up with the hook, the scissors closed, and
ing clamps the suture onto the block before the cutting
blade r the suture. When the suture is
is mad scissors, this pulls the suture out
ld be observed to get the knot on
e sp scissors can be used for removing
any will be found especially useful in
within the cervix
ent one hand is
tructe tures can be
cut and

Health operated expired by limitation, June 2, 1883, and the Marine-Hospital Service took charge of national quarantine and public-health matters under the quarantine law of 1878, which then became operative A contingent appropriation was made by Congress for the prevention of the introduction and spread of epidemic diseases and the maintenance of quarantine at points of danger This appropriation supplied the necessary funds for quarantine and epidemic work, which the quarantine law of 1878 failed to provide

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In 1889 the Secretary of the Treasury detailed Surgeon-General Hamilton to attend the Sixteenth International Medical Congress at Berlin, Germany, and to study European hospital construction The surgeon general visited may large European cities, studied their hospitals, and made an exhaustive and critical report on the systems employed in their construction

The regulations of the service since the reorganization required that all applicants for the service should be examined by a board of officers, and appointed to the lowest grade, that of assistant surgeon The examinations were severe and the standard of excellence demanded was high, and in consequence 80 per cent of the applicants were rejected The surgeon general considered statutory provision confirming the regulations on this point necessary for the maintenance of this high standard of excellence, and in 1889 Congress enacted that, after passing a satisfactory examination before a board of service officers, the applicant was to be commissioned by the President by and with the advice and consent of the Senate appointment to the service to be made only to the lowest grade that of assistant surgeon

Assistant surgeons were to be promoted to the rank of passed assistant surgeon after four years' service and the passing of an examination, and promotion to the rank of surgeon only after due examination

To provide additional protection to the country at large in preventing the spread of contagious disease from one state or territory to another, the interstate quarantine law of 1890 was passed by Congress In June 1891, Supervising Surgeon-General Hamilton resigned, and was succeeded by Surgeon Walter Wyman who was then chief of the quarantine division

(To be continued)

TRAVEL NOTES

IV*

LEPROSY IN THE HAWAIIAN ISLANDS THE PROPOSED ESTABLISHMENT OF A GOVERNMENT BACTERIOLOGIC INSTITUTE

NICHOLAS SENN, M D

CHICAGO

HONOLULU, July 14, 1904

The inhabitants of the beautiful Hawaiian Islands, comparatively free from the devastating infectious diseases so long as they enjoyed the blessings of isolation from the outside world, have been made painfully aware of the dangers of the dissemination of disease from man to man They have experienced the benefits and blessings as well as the evils and curses arising to them from a new civilization brought to their

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* The first article in this series, "Travel as a Means of Post Graduate Medical Education ' by Dr Nicholas Senn appeared in THE JOURNAL, July 23, page 261 the second "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr Lewellys F Barker July 30, page 328 the third "Spain and Ramon y Cajal,' by Dr Lewellys F Barker, Aug 6 p 403

Clinical Report.

A CASE OF BRASS MOLDER'S AGUE

STEPHEN R PIETROWICZ, M D
Attending Physician to St. Mary s Hospital
CHICAGO

Patient—J G, aged 33 years, Polish, married, brass molder, has been under my personal observation one year He entered St. Mary s Hospital July 17, 1904

Family History—Father and mother died of old age, disease unknown to patient Two brothers and two sisters alive and healthy, one brother died of some acute abdominal affection

Personal History—Measles and scarlet fever as a child, otherwise well until present illness No venereal history

Present Illness—Patient came to this country fourteen years ago and began working at an occupation in which he continually inhaled and was exposed to an atmosphere laden with minute particles of brass filings One year later his symptoms began He first noticed palpitation of the heart, accompanied by pain in precordial region, also pain in abdomen of a dull character, sometimes lasting several hours Numbness and cramps in arms and legs, together with difficulty in moving the extremities were not infrequent phenomena A prominent symptom was a fine tremor, most marked in muscles of the face, hands and fingers On several occasions he had distinct chills lasting several minutes Constipation was very obstinate requiring cathartics constantly Patient's appetite gradually became impaired He was troubled with bronchitic symptoms which were severe From time to time he was confined to bed for periods of one or two weeks Recently severe headache, attacks of vertigo and dizziness and a burning sensation in the epigastric region has been noticed His hair has fallen out lately and his memory is failing As to habits, he is a habitual user of alcoholic beverages, which he thinks aggravate his condition, he does not use tobacco in any form

Examination—Medium sized man, height 5 feet 6½ inches, weight 126 pounds, emaciated, sallow, anemic, unhealthy looking complexion, has lost 25 pounds in the last month Marked baldness of head, also some loss of both pubic and axillary hair Tongue coated heavily, foul breath, shows a beautiful green zone or border along the gingival margin of the gums, which can not be removed by ordinary scraping Teeth in good condition Pupils react to light and accommodation, eye grounds normal Skin tinted yellow, dry, scaly Sensation normal, electrical reaction normal Patellar reflexes exaggerated, especially on right side, where there is a repeated clonic response to a moderate tap Ankle clonus present in both Cremasteric and corneal reflexes normal Fine tremor in fingers, hands and facial muscles, also wasting of said muscles, speech indistinct and tremulous No glandular enlargement, osseous system negative Arteriosclerosis marked Lungs slightly emphysematous Heart, liver and spleen normal Abdomen negative, some epigastric tenderness and a loose tenth cartilage

Urinalysis—Negative, Marsh test negative Examination of feces, chemical and microscopic, negative.

Examination of Blood—Differential count of 120 fields

Hemoglobin		80 %
Red cells		4 960 000
White cells		10 800
Small lymphocytes	110	18 %
Large lymphocytes	65	10 %
Eosinophiles	10	016 %
Polymorphonuclear leucocytes	400	66 %

Treatment—At the beginning the patient was treated symptomatically, iodid of potassium in a saturated solution was given until physiologic reaction appeared The literature was scanned, but without giving much information Milk given very hot, but not boiled, afforded a good deal of relief It was given with the idea that it would precipitate both zinc and copper into insoluble albuminates No marked improvement followed the use of bromids and iodids During the acute attacks morphia in ½ to ¾ gr doses was administered hypodermically with only slight cessation of pain Quinin hydrochlorate and sulphate were given for the chills without effect The patient was given large doses of zinc phosphid and sulphate of strychnia for the tonic effect On his entering the hospital it was discovered that anything hot was soothing to him and relieved his pain, hot water was then tried, to which was added gum camphor, 5 grains to a pint of hot water, he would drink at times two to three pints of this with great relief The local application of a large mustard plaster over the entire abdomen gave relief at times Total abstinence from all meat was followed by improvement, and he has since been put on a strictly vegetable diet, with no return of symptoms It is strange that hot water with small doses of camphor gum should give relief It is worthy of a trial

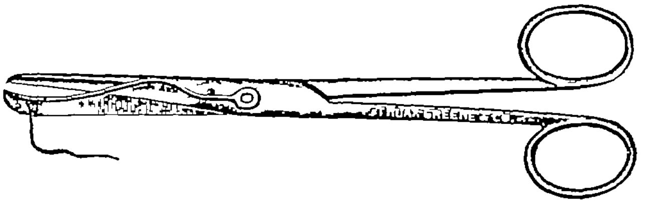
New Instrument.

SUTURE SCISSORS AND SUTURE REMOVER IN ONE INSTRUMENT

A. E BENJAMIN, M.D
Clinical Instructor in Gynecology College of Medicine and Surgery University of Minnesota
MINNEAPOLIS

It is customary for a great many surgeons to stitch up lacerations of the cervix with non absorbable sutures, such as silkworm gut Lacerations of the perineum are more frequently sewed up with such material When such sutures are used it is often difficult to remove them The reasons for this are obvious 1 Sutures within the cervix are deeply situated, 2, there is usually not sufficient light, 3, sutures occasionally are buried beneath congested, inflamed or overlapping tissue, 4, there is very little room to work, 5, it is difficult to use two instruments within the vagina, viz, one to hold the end of the sutures, and the scissors to cut the sutures, 6, the view is obstructed so that it is difficult to secure the suture without wounding the portio vaginalis A few of these difficulties are experienced in removing perineal sutures

It occurred to me that a combined instrument might be made so that the sutures could be hooked up, cut and withdrawn, all with the same instrument Such an instrument I have had constructed. It consists of an ordinary 7 in straight scissors, with a hooked point on the lower blade On the flat side of this hooked point is fastened a block of steel about 1/16 of an inch wide, corresponding with the curve of the hook, extending ½ of an inch along the flat surface of the lower blade, and fastened a little below the level of the cutting surface The hooked point is rounded and dulled so that it will not wound the soft tissues A spring, extending to the point of the upper blade, is fastened by the screw holding the two blades It has a surface at its extremity to correspond with the curve and width of the block on the lower blade. Two pins a little in front of the screw, hold the spring, making it firm above and below The opposing surface of the spring and block are roughened so as to hold the suture firmly This is more necessary for silk sutures A suture that is to be removed is caught up with the hook, the scissors closed, and the spring clamps the suture onto the block before the cutting surface of the blades sever the suture. When the suture is cut, traction is made on the scissors, this pulls the suture out of the tissues Care should be observed to get the knot on the side of the spring These scissors can be used for removing sutures from any locality, but will be found especially useful in removing sutures located deeply, as within the cervix



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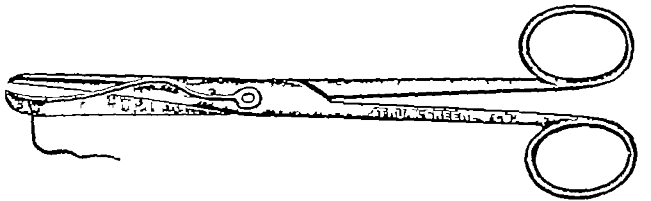

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THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 13, 1904

MEDICAL EDUCATION IN THE UNITED STATES

The present issue of The Journal is the fourth annual educational number, and contains statistics regarding medical education in the United States, covering the year ending June 30, 1904 The information contained in this statistical study was obtained largely from the colleges directly, and has been certified to by some one in authority in each school, so that we have every reason to believe that all the data are as correct as can be obtained It has been no easy task to gather all this information, and any errors that may have crept into the work are only such as are likely to occur when information is gathered from many sources Only one college in the United States (not including the Manila and San Juan schools) flatly refused to give any information, but the data which might have been obtained would not have changed the totals appreciably We take this opportunity of extending our thanks to all those who aided us in gathering these statistics

A perusal of our study will show that medical education, so far as students and colleges are concerned, has not changed materially during the past year, although a slight improvement is noticeable in the advances made in the length of the college term This improvement is, on the whole, very gratifying, inasmuch as it shows the disposition of all the schools to better medical education In the statistics contained in this number, we have embodied some new features which, we are convinced, will be of interest to medical educators

Number of Medical Students —The number of medical students in the United States for the year ending June 30, 1904, was 26,138—a decrease of 1,477 below the year 1903 Of this number, 23,662 were in attendance at the regular schools, 1,105 at the homeopathic, 1,014 at the eclectic, and 357 at the physiomedical and nondescript schools There was a decrease in the attendance of the regular schools of 1,268 below last year, and a decrease of 1,216 below the year previous—1902 In the homeopathic schools, there was a decrease of 393 below that of 1903, and a decrease of 512 below 1902 The eclectic schools have been increasing steadily since 1900 In 1904, 1,014 students attended the eclectic schools, an increase of 166 over the attendance of the year previous—1903 The physiomedical and nondescript schools show an increase in attendance of 18 over the previous year, the attendance in 1903-04 being 357 This increase, however, occurred in the nondescript schools and not in the physiomedical

Table of Medical College Attendance

Year	Regular	Homeopathic	Eclectic	Physio-Med. and Nondescript.	Total
1880	9,776	1,220	830		11,826
1890	13 521	1,164	719		15,404
1900	22,710	1,909	552		25,171
1901	23 846	1,683	604	224	26,417
1902	24 878	1,617	765	241	27,501
1903	24 930	1,498	848	339	27,615
1904	23,662	1,105	1,014	357	26,138

Number of Graduates —The total number of graduates for the year ending June 30, 1904, was 5,747, an increase of 49 over the preceding year The increase in 1903 over 1902 was 699, so that the increase during the present year was much less than that of the year previous Of course, there are 9 more colleges this year than there were last year, but 3 of the 9 were not in session, and the others, with the exception of 1, taught only a portion of the medical course Although the graduates have increased slightly, the matriculants have decreased considerably, and we must assume that the decrease has occurred largely in the freshmen classes, partly because of the increase in entrance requirements, partly because of the increase in fees and general expense of the medical course, and, perhaps because of the prosperity in the business world in general, which usually lowers the attendance in the professional schools In some colleges there was a decided falling off in the freshmen class, while in others there was a very slight increase The falling off was noticeable, particularly, in those schools that raised their entrance requirements The decrease in the number of graduates in the homeopathic schools—49—represents the lowest number of graduates since 1902 The eclectic schools show a decrease of 3 in the number of graduates below last year, and the other school a decrease of 1 In the regular schools, on the other hand, there has been an increase of 102 over 1903

Table of Medical College Graduates

Year	Regular	Homeopathic	Eclectic	Physio-Med. and Nondescript	Total
1880	2 673	380	188		3 241
1890	3 853	380	221		4 454
1900	4 715	413	86		5 214
1901	4 879	387	148	30	5,444
1902	4 498	336	138	27	4 999
1903	5 088	420	149	41	5 698
1904	5,190	371	146	40	5,747

Number of Colleges —Our report last year showed that there were at that time 157 medical colleges, 3 of which did not grant the degree of M D, but taught only the first two years of the medical curriculum Since then 1 college has passed out of existence, and 10 new ones have been formed, making a total of 166 colleges at the present time Of these 133 are regular, 19 homeopathic, 10 eclectic, 3 physiomedical, and 1 institution which teaches all the "pathies" and "isms," including osteopathy Of the regular colleges, 2 are not yet active and 7 do not grant any degree Of the latter number, 6 teach only the first two years of the medical course, and 1 only the first year Two of the regular colleges are located in our island possessions, one is the Medical Department of the University of Porto Rico at San Juan, and the other the Medical Department of the San Tomaso University of Manila, P I

COLLEGES IN STATES AND CITIES

ALABAMA—2	
Birmingham	1
Mobile	1
ARKANSAS—1	
Little Rock	1
CALIFORNIA—8.	
San Francisco	5
Oakland	1
Los Angeles	2
COLORADO—3	
Denver	2
Boulder	1
CONNECTICUT—1.	
New Haven	1
DISTRICT OF COLUMBIA—3	
Washington	3
GEORGIA—3	
Augusta	1
Atlanta	2
ILLINOIS—16	
Chicago	15
Galesburg	1
INDIANA—6	
Indianapolis	4
Fort Wayne	1
Bloomington	1
IOWA—5	
Iowa City	2
Des Moines	1
Sioux City	1
Keokuk	1
KANSAS—3	
Lawrence	1
Topeka	1
Kansas City	1
KENTUCKY—7	
Louisville	7
LOUISIANA—2	
New Orleans	2
MAINE—1	
Portland	1
MARYLAND—8	
Baltimore	8
MASSACHUSETTS—4	
Boston	4
MICHIGAN—6	
Ann Arbor	2
Detroit	3
Grand Rapids	1
MINNESOTA—3	
Minneapolis	3
MISSISSIPPI—1	
Oxford	1
MISSOURI—15	
St. Louis	6
Kansas City	6
Columbia	1
St. Joseph	2
NEBRASKA—3	
Omaha	2
Lincoln	1
NEW HAMPSHIRE—1	
Hanover	1
NEW YORK—11	
New York City	8
Albany	1
Buffalo	1
Syracuse	1
NORTH CAROLINA—4	
Raleigh	2
Davidson	1
Wake Forest	1
OHIO—10	
Cincinnati	4
Cleveland	3
Columbus	2
Toledo	1
OKLAHOMA—1	
Norman	1
OREGON—2	
Salem	1
Portland	1
PENNSYLVANIA—7	
Philadelphia	6
Pittsburg	1
PHILIPPINE ISLANDS—1	
Manila	1
PORTO RICO—1	
San Juan	1
SOUTH CAROLINA—1	
Charleston	1
TENNESSEE—11	
Nashville	4
Knoxville	2
Chattanooga	2
Memphis	1
Jackson	1
Sewanee	1
TEXAS—8.	
Galveston	1
Fort Worth.	1
Dallas	5
Texarkana	1
VERMONT—1	
Burlington	1
VIRGINIA—3	
Charlottesville	1
Richmond	2
WEST VIRGINIA—1	
Morgantown	1
WISCONSIN—2	
Milwaukee	2

Three colleges are exclusively for women, 60 for men, 103 are co-educational, 4 hold only night sessions, and 2 both day and night sessions There are 7 schools to which only colored people are admitted Four schools operate under the continuous course system, the year being divided into quarters, the student being allowed to attend only a specified number of quarters or semesters in each calendar year Sixty-six regular schools, 4 homeopathic and 1 eclectic college have a university connection or affiliation The baccalaureate and medical degrees are granted at the end of six years' study by 6 colleges, and at the end of seven years by 1 college

Seventy regular colleges are members of the Association of American Medical Colleges, 12 belong to the Southern Medical College Association 18 of the homeopathic schools are recognized as in good standing by the American Institute of Homeopathy, and 8 of the eclectic colleges are members of the National Confederation of Eclectic Medical Colleges Many of the colleges not in these associations abide by their entrance requirements

A study of the following comparative table of medical colleges is of interest The regular schools have increased in number since 1903, while the other medical colleges number as many as last year It must be remembered, however, that last year only 3 schools gave instruction in the first two years' work of the medical curriculum, whereas this year 7 schools were engaged in doing this preparatory work Each of these preparatory schools are integral parts of recognized universities, and this work, therefore is accepted as a full credit by other medical colleges By subtracting these 7 colleges, and also the 2 schools in Porto Rico and Manila, from the number of regular medical schools, it gives us an actual increase of only 2 colleges which grant the degree of M D, or a total of 156

COMPARATIVE TABLE OF MEDICAL COLLEGES

Year	Regular	Homeopathic.	Eclectic.	Physio-Med and Nondescript.	Total
1880	72	12	6		90
1890	93	14	9		116
1900	121	22	8		151
1901	124	21	10	4	159
1902	121	20	10	4	155
1903	121	19	10	4	154
1904	133	19	10	4	166

Length of Terms—A study of the length of terms in months, of the various medical colleges, discloses some very interesting facts Of the 163 schools from which we were able to obtain the necessary information, 40 3 per cent have a course of at least eight months' duration. Only 16 3 per cent have a course of less than seven months' duration The figures are as follows

TABLE OF COLLEGE TERMS

Term	Schools.	Per cent,
6 months	27	16.3
7 months	44	27 0
7½ months	22	13 5
8 months	34	20 8
8½ months	13	7 9
9 months	19	11 6
*10 months	4	2.4

*Night schools

Nearly all the shorter term schools are located in the South, where medical educators feel that the conditions are such as to prohibit a longer term Most of the nonsectarian schools have seven months' terms A very small percentage of the regular colleges have less than a seven months' term Many of the colleges which last year had seven months' terms have adopted the eight and nine months' terms for the coming year It is probable that another year will see the passing of the six months' school Of course, the term "months" is elastic, inasmuch as seven months means anywhere from twenty-six to twenty-eight weeks, eight months thirty to thirty-two weeks, and nine months, thirty-three to thirty-six weeks It would be far better to regulate the length of each annual course by specifying a definite number of teaching days or number of hours spent in college

Women in Medicine—It is of interest that in spite of the apparent passing away of colleges for women the number of women medical students and graduates has been increasing steadily During the past year only 2 of the 3 colleges for women were in session, but 97 colleges are co-educational, which may account for the increase in women students During the past year 1,129 women were engaged in the study of medicine—4 3 per cent of the total number of medical students and 244 graduated—4 per cent. of the total number of graduates Of the total number of matriculants only 183 were in attendance at the 2 woman's colleges, and 16 graduated from them

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THE COUNCIL ON MEDICAL EDUCATION

With the appointment of the Council on Medical Education[1] at the Atlantic City session, the American Medical Association again voices its interest in the subject of medical education, and commits itself to an active participation in the efforts which are being made to elevate the standards of medical education in this country It is interesting that this step should have been taken at a meeting held within a few days of the death of the founder of the Association, whose dominant idea in proposing the organization of the profession, over fifty years ago, was the improvement of medical education The Council is to consist of five members, appointed by the President of the Association, and its functions are defined as follows

First, "to make an annual report to the House of Delegates on existing conditions of medical education in the United States"

Second, "to make suggestions as to means and methods by which the American Medical Association may best influence, favorably, medical education"

Third, "to act as the agent of the American Medical Association, under instructions from the House of Delegates, in its efforts to elevate medical education"

The plan to be pursued by the Council was left indefinite, and it will doubtless be its first business to determine what lines of work it will undertake and what its relations shall be to the several other organizations having a similar purpose Notwithstanding the gratifying advance which has been made in medical education in this country in recent years, as was well stated by the resolutions creating the Council, "the existing standards of medical education are not satisfactory as compared with those of other great powers" The conditions are ripe for a vigorous, concerted movement by all who are interested in the elevation of the medical profession in the United States In this movement the Association, with its enormous and increasing membership and its thorough organization, may be a factor of great importance It must proceed, however, with due regard to existing conditions, and will do best to co-ordinate its activities with those of existing organizations seeking the same end Some conditions peculiar to this country are mentioned in the resolutions to which we have referred, which state that "our form of government makes it impossible, or at least improbable, to obtain governmental control of medical education" The numerous medical colleges which have to do with the education of the student and the several examining and licensing bodies which guard the portals of the profession, are creatures of the several states, and beyond the reach of national control We can not have in this country, therefore, a body like the British Medical Council, which has direct official control of the several medical schools and of their students In its relations to the American Medical Association, and so to the general profession, the new Council is analogous to the Committee on Education of the British Medical Association, appointed in 1898

Another matter of importance is the existence of several national associations exclusively devoted to one or another phase of medical education, among them the Association of American Medical Colleges, the Southern Medical College Association, the National Confederation of Examining and Licensing Bodies, and the American Confederation of Reciprocating Examining and Licensing Medical Boards While the efforts of these associations have not always been as vigorous and effective as might have been desired, nevertheless each of them has special purposes in view, and is especially well adapted to the accomplishment of these purposes At the same time, they have some lines of effort in common, and much of the ineffectiveness of their previous activities has been due to the unnecessary and wasteful duplication of effort and the lack of co-ordination and co-operation The idea we have in mind may be illustrated by reference to some of the special acts by which the standards of medical education must be elevated

There is a general agreement that the preliminary education for admission to our medical schools falls far short of that which the conditions of the time require What should these standards be? Should the fitness of each student be determined by examination (and if so, by whom), or by the presentation of credits from certain recognized preparatory schools? If credits are to be accepted, who shall determine what institutions of general learning are to be recognized for this purpose?

The curricula of our numerous medical schools differ very greatly in the relative amount of time assigned to the several medical branches, and also as to the methods by which they are taught The degree of this absurd and illogical diversity has been well set forth by Dr George W Webster's recent paper, to which we refer elsewhere Something must be done to secure some degree of uniformity

The numerous and rapid changes which have been made in the curricula of our medical schools in recent years have resulted in a sad lack of mutual understand ing on the part of the medical schools, and it is becoming very difficult, in many cases, for the officials of an institution to pass intelligently on the credits of a student from another school seeking admission to advanced standing. This same lack of understanding and knowledge together with an utter absence of any uniform system in the issuing of credits, has made it possible for dishonest students to impose on the officials of a school by the presentation of altered or forged credentials, a very serious abuse greatly in need of correction.

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[1] See Frontispiece

All of these matters belong properly to an organization of those engaged in the actual work of medical education, such as the Association of American Medical Colleges, though it might easily happen that the efforts of this association to advance along these lines would be more vigorous and successful with the prompting and co-operation of a body like the Council on Medical Education.

One of the most obvious needs of the time is some plan by which the numerous medical colleges may be compelled to live up to the standards which they set forth in their announcements. It is difficult to see how this end can be attained without a system of efficient and rigid inspection by an authorized and authoritative official. It would seem that such inspection could best be accomplished by an appointee of the Confederation of Examining and Licensing Boards. First, because the members of this confederation have actual need of the exact information which would be gathered by such an inspector, and secondly, because the examination by such an official, whose unfavorable report of an institution might result in the refusal to recognize its diplomas by most of the state examining boards, would be almost compulsory in its effect. Two other items naturally come within the province of this confederation. Now that a license to practice can be obtained in most of the states only by passing an examination conducted by the state board, the character of these examinations and the method of their conduct has come to be a matter of great importance, and it may be safely asserted that the present conditions are far from satisfactory. It is only necessary to allude here to the enormous importance of reciprocity in licensure between the several states.

Another important matter which might properly come within the province of the Council on Medical Education, is the suggestion of some plan by which the large and increasing amount of clinical material in the many hospitals springing into existence in the smaller cities can be utilized for the purposes of practical medical education. There is enough material of this sort to almost provide an interneship of one year for every medical graduate. It is only necessary, for the accomplishment of this desirable end, that the several medical faculties should be brought in touch with those in control of these hospitals that they may co-operate with each other. There are many other avenues of effort through which the standards of medical education can be elevated, but along most of these one or more existing organizations are already directing their efforts. What is especially needed at the present time is some means by which these various organizations may be made to co-operate effectively. Such an end could be best secured by a joint conference of authorized representatives of these organizations held under the auspices of the new Council on Medical Education. The Association might, of course, endeavor to enforce certain standards of preliminary and professional training by exacting compliance with such standards as a prerequisite for membership in the Association and its constituent societies. With the rapidly changing standards of the last few years, it would be difficult to formulate a list which would be at the same time just and effective. It is questionable, too, whether such an effort would not seriously interfere with that supreme purpose of the Association at the present time, to gather within its membership every reputable and right-minded physician. For the present, at least, we believe that the Association through the new Council will perform the largest service to medical education by the exercise of its moral force and by utilizing through co-operation the forces of the existing organizations to which we have referred.

THE EDUCATION OF THE INTERNE

It is generally conceded by the medical world that the education of the young physician is not completed when he leaves the medical school. Just what proportion of students in the United States take a year or more of hospital work after graduation is impossible to say. The Mosely Commission stated that, according to its information, 50 per cent. of all students took such a course. In our opinion this percentage is too high, but whatever the actual numbers, it is certain that most of us consider such hospital experience indispensable and that ambitious students strive for it. The reason that the number of graduate students entering the hospitals is not larger is lack of opportunity—not lack of applicants. From one to two years of what might be called practical apprenticeship is the privilege sought by the earnest student. To gain this privilege he often undergoes special training for a competitive examination, he delays for the period of his interneship his start in the world and his establishment in his profession.

The courses in the medical schools are subject to constant revision and improvement, and we are gradually rejecting the old method of didactic lectures to crowds of students and are substituting careful personal instruction to small groups. Indeed, the last decade has seen an almost revolutionary change in the methods of the schools. The interneship is the coping stone of the structure, and it is worth while to ask whether the methods of the hospital have kept pace with those of the school.

In old times the student entered the medical school and went to lectures as he pleased He was there to pick up knowledge as best he could The professor had no personal responsibility toward him It may be asked fairly whether this haphazard system does not still survive in many of our largest hospitals Does the hospital service, for which the interne sacrifices so much, count for all it should in equipping him for his profession?

Let us recall what occurs when the young graduate at last gains entrance as interne to the wards of one of our largest hospitals In the first place, he finds himself overwhelmed by the number of patients committed to his care To get through the routine work of the day usually taxes his powers to the utmost, and leaves him neither time nor energy for detailed work on the unusual and instructive cases Thus he is in great danger of forming at the outset the habit of handling his cases superficially—a habit which ruins him as a diagnostician Yet it is here in the hospital that he should acquire, under careful guidance, the methods to be followed throughout his professional life Many of us can recall with shame and amusement the helter-skelter "rounds," the hasty taking of histories, the farce of physical examination in cases which did not commend themselves to our youthful intelligence as interesting or unusual We have since found out, to our sorrow that it is these same unimportant cases which are most likely to prove stumbling-blocks to the superficial diagnostician

In contrast to the hasty methods of such hospitals there is much to be said for the leisurely learning which some of us enjoyed as we accompanied an honored Nestor on his daily rounds in a large family practice The number of cases seen was insignificant compared with those handled by the interne, but the sum of accurate observations at the end of a day was probably much greater Dr Toulouse, superintendent of one of the French public hospitals for the insane, speaks as follows of the interne service of such hospitals in words which apply only too well to the hospitals we are discussing

> Those internes who really wish to learn are deterred by the obstacles which they encounter at the outset The services are overcrowded, the daily round is so hurried that the inexperienced newcomer is overwhelmed by a crowd of details Before this accumulation of subjects which call for careful study the interne gives up the struggle for a scientific system of work "There are too many," he says, in despair, and it can not be too often repeated that there are, indeed, far too many

It would be unfortunate enough if this were the only result of allowing the interne to be thus overwhelmed by his material, but there is still another consequence which is even more detrimental to the scientific attitude of mind We mean the undue self-confidence which the interne is likely to exhibit when he rises above his first sense of helplessness It is fair to say, however that this overconfidence, this eagerness for independent experiment, is not the fault of the interne alone In the last analysis the failure of the hospital to give the proper training to its internes lies at the door of its attending men In the first place, the staff of some great public hospitals is encumbered with men who are incapable of teaching internes, and who have obtained their positions through political influence in order to gain prestige There are other men, able practitioners, but occupied by their private practice, who are content to allow their names to adorn the roster of the staff without personally appearing in the wards This leaves the legitimate work of the attending men to be performed by a totally inadequate number of physicians and necessarily frees the interne from proper supervision

We know that there are those who will take issue with us on this point We know the arguments usually urged that this absence of supervision gives a man self-reliance and ingenuity, that many of our most brilliant surgeons are the product of such training, or rather of such lack of training, but we are firm in our belief that careful supervision and instruction are invaluable, and that the brilliant surgeon and diagnostician has emerged in spite of no training rather than because of it

Why should we expect to reverse all educational laws at the entrance of the hospital? When the graduate in electrical or mechanical engineering leaves the technical school, it is insisted by the great railways and factories into whose employ he enters that he go through a progressive apprenticeship under skilled foremen He is not allowed to experiment with costly machinery on his text-book knowledge, much less with human life Would it not be better, for instance, that an interne should be taught to perform version under a skilled obstetrician, rather than that he should arrive at the proper method after a series of more or less disastrous independent experiments? Why do our students go to the German hospitals It is not so much because of insufficiency of material at home, it is rather that they are certain of receiving in the wards the personal instruction of the best men in Germany

Of course, what we have said does not apply to all American hospitals There are those whose service is not surpassed by any in the world On the other hand there is a true story of an interne who was seen in one of our large hospitals, and who, when asked how he was getting on, blithely replied "O splendidly, I like it so much better than ——— (mentioning an admirable instance of a carefully conducted hospital) About all you can do there is to follow the doctors around and watch what they do, but here the attending men are just figure-heads and never interfere with us"

What certain great free hospitals in this country need is a reorganization of the medical service which shall secure an adequate number of internes, and attending men who shall not be "figure-heads"

PRACTICAL EXAMINATIONS FOR LICENSURE

More than a quarter of a century has elapsed since the enactment in Illinois of the first effective medical-practice act in the United States The movement for the effective control of the admission to the practice of medicine, thus inaugurated, gaining momentum with the passing years, has advanced with especial rapidity in the last decade, until, at the present time, there are few states or territories in which the right to practice can be secured except the applicant submit himself to some sort of a test of his ability The most significant feature of this recent progress is the requirement of an examination conducted by the licensing board, in addition to the presentation of a diploma from a recognized medical school The licensing body is thus entirely divorced from the teaching body, and as these examinations are the sole avenue of entrance to medical practice, their character and conduct become a matter of supreme importance

Are these examinations, as now conducted, of such character as properly and adequately to test the fitness of the applicant to practice his profession Are they in line with the modern methods of medical education? During this quarter of a century the modes of instruction in our numerous medical schools have undergone a radical change The didactic lecture, and the lecture illustrated by the presentation of a patient in the arena or the performance of an operation (an exercise usually misnamed a clinic), have been supplemented, and to a notable extent, supplanted by laboratory and other practical methods It has come to be universally recognized that no person can become proficient in the study of disease and the treatment of the sick, at second hand—*solely* by the reading of books, listening to lectures, or the recitation of lessons committed to memory, however useful these means of instruction may be in connection with those of a more practical character Such proficiency can only be obtained by the study at first hand of the things themselves, by the training of the powers of observation, and of manual dexterity by their actual exercise

A board of medical examiners is a body appointed by the state to protect its people against incompetent persons laying claim to the special knowledge and training which are requisite for the intelligent practice of medicine *A priori* its function is, therefore, to demand evidence of such ability by such tests as will adequately demonstrate it Such evidence a purely written examination can never afford Such written tests, moreover, as are now universally in vogue, are an anachronism as a means of the examination of students who have been trained in the laboratory, the dissecting room, the practical courses in operative surgery, and in the actual contact with patients in the dispensary and ward clinic They put a premium on the obsolete methods of memorizing of text-books—of "cramming," in a word, which are the *bête noire* of all modern educators

Radical changes need to be made in these examinations in the immediate future While written papers as the most ready and convenient means of testing the applicant's knowledge, should continue to be required they ought to be supplemented by as many practical tests as possible Almost all of the medical branches lend themselves very readily to such practical examinations, which may be held without unreasonable expenditure of time, and with materials which can be obtained without serious difficulty In gross anatomy the applicants may be required to identify and describe cross-sections and dissected parts and to indicate, on the living subject, the important landmarks and the outlines of underlying structures, in histology, neurology and embryology, to identify and describe mounted specimens under the microscope, in bacteriology, to identify micro-organisms in culture and in cover-slip preparations, in pathology, to identify and make diagnoses from gross and microscopic specimens In the clinical branches such methods are also available The examination in medicine should include identification and significance of mounted cover-slips of blood, urinary sediments, sputum, feces, and other body products, he should demonstrate his facility in the methods of physical exploration on the living subject, for which purpose healthy individuals would suffice quite as well as those who are sick In surgery, operations on the cadaver, the application of bandages and other surgical dressings, and the preparation of himself, and a cadaver, serving as a patient, for an aseptic operation, might easily be required In obstetrics the manikin, with suitably preserved specimens of the fetus and the female pelvis, furnish means of testing his knowledge of obstetric procedures and his facility in their performance

The materials necessary for such examinations would gladly be furnished to the examining boards by the medical schools, laboratories and hospitals, at a minimum cost and in many cases without cost To the statement sometimes made that such examinations are not feasible, it is sufficient to reply that they have been in vogue in Great Britain and the nations of Europe for many years

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MEDICAL STANDARDS AND THE PUBLIC SERVICES

The question of a standard of medical education which, in other nations, is simplified by the intervention of the national authority, either directly or indirectly, is in the United States rendered difficult of solution by the absence of such central authority Yet it is a fact that the National Government is interested in this matter, in that it has in the permanent personnel of at least four of the great executive departments a large number of physicians In three of them—the Department of War, the Navy and the Treasury which latter embraces the Public Health and Marine-Hospital Service—a high, and as near as practicable a fixed standard has been made a prerequisite to admission to the permanent medical service

In any serious movement looking to a national standard, the public medical services should be taken into consideration and their uplifting influence made of use and correlated to the requirements of such a standard. Examinations for admission to the Medical Department of the Army became habitual in 1832, and a knowledge of Latin and of physics was first required in 1849 In the Navy the first medical examining board was organized in 1825 A literary degree is not demanded of candidates, although evidences of marked lack of general education constitute a cause for rejection Although in the three public services the examinations are conducted by boards which have no connection with each other and under regulations which differ as to minor details, yet the qualifications required of candidates are approximately the same in each As the candidates for admission to the public services are drawn from all the schools and all parts of the Union, they are presumably neither better nor worse than those who come before the state boards of examiners for license to practice The subjects covered by the examinations are also practically identical Therefore a fairly accurate comparison between the average standard of the state boards and that of the public services may be made by finding the percentage of rejections in each In twenty states, being all from which the figures could be obtained, it was found that during the last five years 75 per cent of the candidates examined have been successful and 25 per cent rejected A summary[1] of the results of the examinations of 5,027 candidates for license to practice held by the boards of thirty-seven states during the year 1903, showed that 14 per cent were rejected In the examination for the three public services, not including those rejected for physical defects, out of a total of 1,035 examined, 347, or 33 5 per cent, have been successful, and 688, or 66 5 per cent have been rejected

We find here a standard respectable alike because of the number of competitors, the importance of the positions competed for, the broad sphere of its operation, embracing all the states, and because it is applicable to all schools of good standing While evidently too high for adoption by state boards, it is valuable as a comparative standard for them and should be considered in devising plans of interstate reciprocity It is also worthy the attention of teaching bodies, especially as it has been found necessary for each of these services to maintain at the National Capital a post-graduate school of high grade for special instruction in subjects which are peculiar to their needs, or which are insufficiently taught in even the best medical schools The subject of hygiene, including etiology and preventive medicine, which, as shown by Dr Webster's tables,[2] receives an average of only forty-six hours in the entire course of 124 medical schools, is the only subject taught in one of these service schools, and may fairly be considered the *raison d'être* of all of them Whether in the crowded condition of the medical curriculum and the ever-widening sphere of medical science, it will be possible to give the general practitioner a more satisfactory knowledge of preventive medicine is doubtful If not, the time has come to recognize preventive medicine as a well-marked specialty, and one of supreme importance to communities, states and the two branches of the military service

THE TABLE OF STATISTICS OF COLLEGES

On pages 504 and 505 will be found a table giving the states containing medical colleges, the name of each college, the population of the city in which the college is located, the number of men and women registered as students during the session of 1903-04, and also the graduates (men and women) of 1904, the total number of teachers, and the number of weeks in the college year The suffixes, R, H, E, P M, stand for regular, homeopathic, eclectic and physiomedical Much of the information to be derived from this table has been set forth in the editorial on medical education in the United States, page 466

DISTRIBUTION OF MEDICAL STUDENTS

The table showing the "Distribution of Medical Graduates," on pages 514 to 517, has its accompaniment in the table on pages 506 to 509, showing the states from which the medical students of each college come New York, Pennsylvania and Illinois furnish the majority of the medical students in this country Next come Indiana, Tennessee, Texas, California and Massachusetts Some of the states, such as Arizona. Delaware, Idaho and Florida, furnish a very small quota Densely populated cities and states, in which the people follow mercantile pursuits, furnish the majority of physicians, whereas the mining and cattle states furnish comparatively few The local conditions and the occupation of inhabitants of cities and states certainly influence the inclinations and propensities of men and women to study medicine Of the 26 138 medical students registered during the session of 1903-04 only 361 are not included in this table, so that it is sufficiently accurate to permit of making deductions These 361 students were registered in six or eight colleges, most of which are small, and can be disregarded in summing up Two of these schools are of some size, and as the majority of their students come from Kentucky and Indiana, the totals of these two states would be increased considerably

THE UNIFORM MEDICAL CURRICULUM

The report[2] on the curricula of American medical colleges made by Dr George W Webster, Chicago to the National Confederation of State Medical Examining and Licensing Boards, at its meeting in Atlantic City, discloses some very interesting information with reference to the inequality in the number of hours devoted to the teaching of the various subjects of the medical curriculum To some studies of but little significance and importance, a great deal of time is devoted while to others of prime importance to the physician too little time is given. Apparently, in some schools the professor of hygiene or of anatomy, or of chemistry is a very strong man, and the entire faculty has been built up around him, in fact, it is a one-man school Again, it is possible that an additional number of hours are devoted to work in the chemical or other laboratory in order to occupy the student's time Certain it is that a disproportion exists in the number of hours devoted to the various subjects Dr Webster has obtained his information directly from the colleges, yet it is evident that in some cases a discrepancy has crept in because, for example, it is beyond the possibilities of human endurance to put in sixteen hours a day in the college, even if this included the time to be devoted to study Dr Webster has compiled a table showing the average number of hours devoted to each subject in the curricula by 125 medical schools Although these figures can not, perhaps, be accepted as forming an ideal standard, yet they serve the purpose of permitting of the construction of a standard curriculum which is to be adopted as a minimum for the degree of M D, as follows The course shall consist of four terms, in four separate calendar years, each term to consist of thirty weeks of work, exclusive of holidays, and of at least five hours of college work each day, and thirty hours in each week, or nine hundred hours per year of actual work The entire course of four years shall consist of not less than thirty-six hundred hours of required work Any elective work should be in addition to the above Clinical work should constitute at least one-fourth of the total number of hours in the four-year course The adoption of a standard uniform curriculum, says Dr Webster, will be in the interest of higher medical education It will give to each subject that relative importance which rightly belongs to it It will enable students to receive due credit for work done in any recognized school which adopts and conforms to this standard It will serve as a basis for reform in state board examinations, and will make possible the interchange of licensure—reciprocity The medical degree will have a reasonably uniform standard of value, and will mean something to its holder

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[1] The details of this summary are on pages 514 to 517 of this issue Incidentally it is interesting to compare the percentage of rejections in the past five years (25 per cent) with those in 1903 (14 per cent) Did the raising of the standards of the state boards cause more failures a few years ago and have the colleges since reacted to the stimulus and given their students better preparation so as to thus reduce the percentage of failures?

[2] Report on the Curricula of American Medical Colleges George W Webster N Y Med Journal July 23 and 30, 1904

DISTRIBUTION OF MEDICAL GRADUATES

We have tabulated—on pages 514 to 517 of this issue of The Journal—the reports of the state examining boards for the calendar year 1903 We consider this table well worth the careful inspection of all who are interested in the advancement of medical instruction. It is so arranged that by reading from left to right the individual medical colleges of the United States and Canada which grant degrees may be studied or comparisons readily made It shows where the graduates of each college are locating, the number who passed (P) and failed (F) in each state, the total appearing in all states from which we have received reports, together with the totals of those who passed and failed, as well as the percentage of failures Graduates of foreign colleges (this does not include Canada) locating in the United States are likewise shown Reading from above downward, the figures are given by states, thus allowing an easy comparison as to the number locating in each, the colleges represented, and the totals of those who were passed and rejected and the percentage rejected It will be seen that 5,027 applicants were examined in thirty-seven states, of whom 14 2 per cent failed Some state boards are more severe than others It is also interesting to note that some state boards appear to be lenient toward their own colleges, the graduates of these failing in more instances before the examining boards of other states The colleges of the few states from which we were unable to get full reports would undoubtedly have a better showing in our table had such reports been received, possibly from the leniency hinted at above, but more certainly from the fact that a very large percentage of medical college graduates come from and locate in the state which is the home of the college All the states are not represented in the table Several still do not require examinations Of those requiring examinations, the large majority promptly sent us reports Others failed to respond even after repeated requests Some pleaded lack of clerical help but some of these failed to respond even after The Journal had offered to pay the expense of copying the records But the most astonishing reply received to our request was the refusal of the examining board of one state to send the itemized report of failures asked for, since they feared that the reports, if published might put some medical colleges in a bad light! The Journal wishes to express its thanks for the hearty co-operation that, as a rule, has been received from the various boards The requirement of examinations in some states is but comparatively recent, and methods of record keeping are still in the evolutionary stage, and will doubtless improve The Virginia State Board published in detail the grades in each separate subject in which each applicant was examined This is of great value to the colleges concerned, since they can see in what subjects their graduates are weak, and take steps to strengthen the instruction in the department concerned

Miscellany.

New Colleges, and Colleges Discontinued.—During the year the following colleges were incorporated College of Physicians and Surgeons, Los Angeles, Cal, to begin work Oct 1, 1904 Bell Medical College, Dallas, Tex, the first session began Oct 1, 1903, the first and second years of the medical course are being given by the University of Indiana, Bloomington, Fordham College, New York, Lombard College, Galesburg, Ill., West Virginia University, Morgantown, W Va, and the University of Mississippi, Oxford. The University of the State of Washington is considering the formation of a medical department The National University Medical Department of Washington, D C, has been discontinued. Last year we announced the institution of a medical department by the Southwestern Presbyterian University, Nashville, Tenn, but we have been informed that work in this department has *not* yet begun, and probably never will be

Affiliation of Toledo Medical College—The Toledo Medical College is contemplating an affiliation with the University of Toledo

Medical Department University of Missouri Lengthens Its Course—This school is now working under a full four-year graded course, which has been recognized by the Association of American Medical Colleges as being up to the standard

Canadian Students in United States—In the table indicating homes of students, page 606, those marked "foreign" include Canadians This will explain the number in the foreign column in certain colleges located near the border

States That Have No Medical School.—The following states and territories contain no medical college Arizona, Delaware, Florida, Hawaii, Idaho, Indian Territory, Montana, Nevada, New Jersey, New Mexico, North Dakota, Rhode Island, South Dakota, Utah and Wyoming

Affiliation Contemplated by the Sioux City College of Medicine—Plans are being discussed considering an affiliation of this school with Morningside College Each school is to retain its identity, but the courses are to be combined in such a way that a student can complete his literary and medical work in six years, as is being done by other medical schools having a university connection

Index to Articles on Medical Education—The following partial list of articles bearing on the subject of medical education during the past year is given here for the convenience of those who may wish to look up the subject further It does not lay claim to completeness

Medical College Responsibilities of Carl S N Hallberg Med Standard N Y, August 1903
Colleges and Their Clinics, John Hunter Canada Lancet, January 1904
Curriculum E A Schafer Brit Med Jour, Oct 10 1903
Education and Preliminary Requirements, Geo H Simmons, The Journal A M A, May 7
Education in London, London Letter, The Journal A M A April 2
Education in the U S Frank S Billings, Med Herald, St Joseph Mo July 1903
Education Relation of Academic to W H Wathen, Am Prac and News, Louisville Aug 1 1903
Education Some Aspects of, John H Musser, The Journal A M A June 11, 1904
Graduate What Is to Become of the John L Irwin, Jour Mich State Med Soc April 1904
Instruction a Plea for Greater Uniformity, N R Coleman, N Y Med Jour Aug 1 1903
Instruction in the United States, Semaine Medical Paris (No 44)
School Chemistry of the, J H Long, The Journal A M A, April 9
Schools, Requirements for Admission to, N S Davis, Jr, The Journal A M A Aug 15, 1903
Studies in Europe John Sutherland St Paul Med Jour October, 1903
Teaching New Era in George E Nitzsche, Dominion Med Monthly May 1904
Medicine History of, Joseph F Payne, Brit Med Jour, June 27, 1903
History of in Russia, M Lachtin, Wiener klin Rundschau (xvii Nos 47 49)
Observations on the Teaching of Clinical, W S Thayer, The Journal A M A July 4 1903
Conflicting Claims of General Education and Professional Education Arthur T Hadley, The Journal A M A. February 6
Educational Situation in Ireland Dublin Letter, The Journal A M A February 20
Laboratory Method of Instruction, Editorial The Journal, May 14

Medical News.

CALIFORNIA

College and Hospital Under Way—The excavation for the new $175 000 Angelus Hospital and for the building for the College of Physicians and Surgeons of Los Angeles was commenced July 14 The college building is to be ready October 6

Students' Hospital Will Be Enlarged—The joint committee on health from the student body and the faculty of the University of California, has decided to build an addition to the present building, which will increase the capacity of the hospital to 40 patients and will also provide the necessary accommodations for nurses, store rooms, service rooms and the like

Examiners Lose Case—On July 22 Judge Fritz dismissed the charge of practicing medicine without a license, which the State Board of Medical Examiners had preferred against Dr E Schmoll, *San Francisco, holding that while the accused* might have violated the law technically he had not done so deliberately

Faculty Dines—In order to get the workers in the new College of Physicians and Surgeons, Los Angeles, into closer touch, a banquet was held, July 16, at which 25 members of the faculty were present, and remarks were made by the president, Dr Charles B Nichols, the dean, Dr Benjamin F Church, the secretary, Dr J H Schults, and the treasurer, Dr James H Seymour

COLORADO

Eye, Ear and Throat Men—The ninth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in Denver, August 24 to 26, under the presidency of Dr Edward Jackson, Denver

Phipps Sanatorium Opened.—The Agnes Memorial Sanatorium at Montclair, founded by Laurence C Phipps, at an expense of more than a quarter of a million, and dedicated to the treatment of pulmonary tuberculosis in memory of his mother, Mrs Agnes Phipps, was formally dedicated with fitting ceremonies July 2

Receive Degrees—A class of 32 was graduated from the Denver and Gross College of Medicine Prof Victor C Alderson and Rev Charles S Olmsted made addresses, and Prof Herbert A Howe of the Denver University conferred the degrees In the evening the graduating class was given a banquet by the faculty, at which Dr Sherman G Bonney was toastmaster

Personal—Dr Patrick V Carlin, Denver, has been elected a member of the Board of Education for the City and County of Denver——Dr Arthur T Blachly, Delta, has been appointed resident physician at the Hayward (Wis) Indian reservation——Dr Carl Parsons has been made resident physician at the City and County Hospital, Denver——Dr J M. Jordan has been appointed assistant county physician of Denver County, vice Dr Seymour T Jarecki, deceased

DISTRICT OF COLUMBIA

New Naval Medical School Building—Ground has been broken for a hospital building in connection with the Museum of Hygiene and Naval Medical School, for which $125,000 was appropriated by congress The building will be on the pavilion plan, with a central administration building and east, west and south wards

Georgetown Graduates—The Fifty fifth annual commencement exercises of Georgetown University were held, June 7, when 32 men were graduated in medicine Dr George L Magruder presided, President Daugherty conferred the degrees, and Assistant Surgeon General George Tully Vaughan of the U S Public Health and Marine Hospital Service delivered the doctorate address

Personal.—Dr Charles W Richardson, Washington, has gone abroad——Dr Charles B Purvis, Washington, has resigned from the Board of Medical Examiners, and Dr Daniel S Lamb has been appointed to fill the vacancy——Dr Patrick A Lloyd has succeeded T G Jones as chief resident physician at the Casualty Hospital, Washington——Drs Ray D *Adams* and Mahlon Ashford have succeeded Drs Samuel L Owens and Abrahams, as resident physicians at Georgetown University Hospital

ILLINOIS

Lawn Fete for Hospital.—The lawn fête given by the St Francis Hospital *Association at Evanston* last week, netted $1,400 to the funds of the hospital

Langdon Released Under Bonds—Dr P K. Langdon, recently extradited by the English authorities, was brought back to Kankakee, July 14, by the sheriff, and on July 19 was released under a bond of $10,000, will be brought before the grand jury in October

Personal.—Dr John W Bowling has been chosen to succeed Dr John F Barton as local surgeon for the Louisville and Nashville and Baltimore and Ohio railroads at Shawneetown Dr Frank Gardner has returned from Europe and is visiting in Sublette——Dr Frank N Armstrong, Richmond, was seized with apoplexy while in McHenry, July 25

Chicago

To and From Europe—Dr Edmund J Doering, sailed for Italy August 9——Dr Edward T Alford has returned from Europe.

Patients Rob Physician—Dr Johann Harraes was held up in his office, July 26, robbed of $300 in cash and $500 in jewelry by two men who posed as patients

Augustana Hospital.—At the recent meeting of the directors of this hospital it was announced that $20,000 had been bequeathed to the institution by the late Thomas D Lowther

Personal.—Dr H Gideon Wells has been made dean of medical work in the University of Chicago, vice Dr E P Lyons, resigned to accept a position in Washington University, St Louis

Swedish Hospital Incorporated—Articles of incorporation were issued, July 20, for the Washington Park Hospital, to be built near Washington Park The institution has a capital stock of $50,000, and has at present accommodation for 30 patients in a building at Sixtieth Street and Vincennes Avenue

Deaths of the Week.—Acute intestinal diseases caused 120 of the 473 deaths for the week ended August 6, consumption, 58, violence, 44, heart diseases, 34, Bright's disease, 33 and pneumonia, 27 The annual death rate per 1,000 was 12 78, which compares very favorably with 14 29, the rate for the corresponding week of last year

July Mortality—The deaths for July were 1,958, 213 more than were reported in June, and 432 less than occurred in July, 1903 The death rate for the month was 11 95 per 1,000 The deaths under one year were 122 less, and those between 1 year and 5 years 106 less than in July, 1903 The health department attributes the low mortality to propitious weather and a remarkably good water supply Acute intestinal diseases heads the list of death causes, with 333, consumption comes next with 233, and then follow violence, with 184, Bright's disease with 144, heart diseases with 143 and pneumonia with 123

IOWA

Accidents.—Dr Thomas J Maxwell, Keokuk, was run over by an automobile, spraining and abrading his knee——Dr Leo Louis, Parkersburg sustained internal injuries and injuries to head by being thrown from his buggy July 24

Fee Bill Adopted.—At a mass meeting of Des Moines physicians, July 28, at which 35 were present, a fee bill was adopted, providing for minimum charges of $2 to $5 for day visits, $3 to $5 for night calls, $15 for obstetrics, and charges for subsequent calls, and $2 for life insurance examinations This fee bill is to be in effect after September 1

Medical School Improvements.—At a meeting of the trustees of the Sioux City College of Medicine, August 3, a number of improvements for the college building were decided on These include the rearrangement of the interior of the building, the provision of an additional lecture room, and the purchase of more microscopes and other equipment for the laboratories

Personal.—Dr Robert E Conniff, Sioux City, has been elected president of the State Board of Medical Examiners—Dr Henry Matthey, Davenport, has been elected president of the State Board of Health, and Dr Josiah F Kennedy, Des Moines, secretary and editor of the Iowa Health Bulletin——Dr Henry Albert, professor of bacteriology in the Iowa State University, Iowa City, has assumed his duties as head of the bacteriologic department of the state.——Dr R. E Robinson, Waverly, sailed for Europe July 16——Dr Benjamin F Campbell, after a year of post graduate work in Chicago, has resumed practice in Burlington

KENTUCKY

Addition to Faculty—Dr Carl Weidner, Louisville, has been given the chair of pathology and histology in Kentucky University Medical Department

Twice Acquitted—Dr Sarah A. Murphy, Louisville, who has twice been charged with murder by a criminal operation, was acquitted for the second time, July 14, the judge ruling that the prosecution had failed to establish a case

Wathen Suggests Merger—Dr William H. Wathen, Louisville, announces that he thinks that the tremendous competition from medical institutions in other cities necessitates the consolidation of the five medical colleges in Louisville into two great universities

Cars Must Be Sanitary—The State Board of Health has entered on a vigorous campaign against unsanitary cars, paying especial attention to plush car seats, both for day cars and sleeping cars It threatens to indict all railway companies whose lines enter the state unless they provide sanitary cars, sanitary bed clothing in sleeping cars, and adequate ventilation

Personal.—Dr Miles C Dunn, Henderson, has been made chairman, Dr Robert H Moss, Niagara, temporary secretary, and Dr Silas Griffin, Henderson, health officer, of the newly organized Henderson County Board of Health——Dr James W Stephens, Hopkinsville, second assistant physician at the Western Kentucky Hospital for the Insane, has been made first assistant physician at the Central Kentucky Hospital for the Insane, Lakeland.——Dr Malcolm H. Yeaman has succeeded Dr Josiah G Furnish as superintendent of the Central Kentucky Hospital for the Insane, Lakeland.

MARYLAND

Many Autopsies Unnecessary—The Baltimore County Commissioner declined to pay bills for postmortem examinations The president expressed the opinion that many of them were unnecessary

Typhoid Epidemic.—There are 80 cases of typhoid fever at Mount Savage, Allegany County, the result of a contaminated spring, which has been closed by the health officer The disease is confined, with two exceptions, to men and boys One death has occurred so far The three physicians are kept busy night and day, and nurses have been sent from Cumberland.

Personal.—Dr Thomas C Baldwin, Gemmills, has resigned as health officer of the Seventh District, and has moved to Baltimore. The vacancy has been filled by the appointment of Dr Eugene W Hyde.——Dr John E Bolte, Harrisonville, was stricken with hemiplegia, August 4——Dr Charles W Goldsborough of Walkersville had his arm severely lacerated by two dogs, while visiting a patient, August 4

Baltimore

Baltimore Medical College has new laboratories of operative surgery and clinical pathology and a new museum

Purification of Water—The water engineer is purifying the city drinking water with copper sulphate with apparent success

Johns Hopkins Hospital.—The new surgical building (heretofore described in THE JOURNAL) will be ready for occupancy at the opening of the next session October 1

The Health Status.—The health report for July shows a considerable decrease in infectious diseases as compared with the same month in 1903, namely from 446 to 284 The general mortality is about the same.——During July at the public baths there were 61,232 visitors, of whom 8,406 were females, the largest number on record.

Modified Milk May Be Bought—The Thomas Wilson Sanitarium is operating five milk dispensaries in Baltimore, where for ten cents a day three pints of properly modified milk can be obtained for feeding infants Each dispensary has a physician and nurse, and any practitioner can order a supply of milk for the poor as long as needed.

University of Maryland.—A department of pharmacy has been created. A new dental building and new laboratories of physiology and pathology have been constructed A fund has been set apart by the trustees for research work Lectures on the history of medicine will be delivered weekly, commencing October 8 There is a fine medical library and collection of current journals.

Maryland Medical College.—Dr J B Schwatka has been elected dean, vice Dr J William Funck. Drs Charles E. Simon and Pearce Kintzing have been added to the faculty The former will give a practical laboratory course in clinical diagnosis to all members of the graduating class, the latter a course on physical diagnosis and clinical medicine The plans have been formulated and the money raised for the new Franklin Square Hospital, but the work of building will not be begun until after the next session

The Smallpox Crusade—The recent crusade against smallpox was highly satisfactory In all 72 850 persons were vaccinated, of whom 37,750 were treated by the 25 special vaccine physicians, 5,100 by the health wardens, and 30,000 by private physicians The total cost to the city was $6,750, $3,750 of which paid for special salaries, and the remainder for vaccine points Factory and mill owners now recognize the necessity of the measure and demand vaccination certificates from their employes The effect of the crusade is shown in the fact that in May 6 cases of smallpox were reported, in June 5 cases, and in July only one case.

Personal—Dr J B Schwatka sailed for Europe August 4 He was given a reception by his friends the day before he sailed ——Dr William H Welch left here, August 8, for San Francisco, where he is to deliver the Lane lectures on infection and immunity ——Dr William Osler is chairman of the Department of Medicine of the International Congress of Arts and Science, to be held in St Louis, September 19 to 25 Among the speakers from Baltimore will be Drs William S Thayer and Howard A Kelly ——Dr Isham R Page is at Northport, Maine ——Drs J William Funck and Seth S Ullrich are spending the month at Ocean City ——Dr Henry M Hurd will spend September in the Adirondacks ——Dr H Boyd Wylie is at Mountain Lake Park ——Drs John N Mackenzie and William T Howard are at Narragansett Pier ——Dr S Gibbons Smart of Roland Park has removed on account of his health to Bedford City, Va ——Dr M Gibson Porter, Lonaconing, has taken charge of his practice ——Dr Charles C Bombaugh is at Newport

MASSACHUSETTS

Domestic Science for Nurses—The Children's Hospital, Boston, has added to its curriculum for nurses a four months' course in Simmons College, the new training school in domestic science

Milk and Noise—Brookline has not only followed Boston in making a careful bacterial examination of the milk supply of the town, but in requesting the dealers to use more caution about early morning noises, much of which has been shown to be unnecessary

Sudden Rise in Mortality—After a series of weeks of most unusually low death rate, the Board of Health of Boston reports for the week ended August 6, 250 deaths, or an annual rate of 21 15 per 1 000 The great increase was in young children, 21 deaths during the week being ascribed to "cholera infantum" It is fair to presume that physicians use this term to cover cases of ileocolitis, for not a case of true cholera infantum has been received at the Boston Floating Hospital this summer, and over 500 patients have been treated there during the past four weeks

Summer Statistics—For the ten weeks ended August 6 there were reported in Boston 1,824 deaths, an average annual death rate of 15 57 per 1,000 There were 465 cases of diphtheria, with 31 deaths, 101 cases of scarlet fever, with 3 deaths, 119 cases of typhoid fever, with 19 deaths, 548 cases of measles, with 15 deaths, 401 cases of tuberculosis and 225 deaths, 140 deaths from pneumonia, 3 from whooping cough, 179 from heart disease, 28 from bronchitis, and 30 from marasmus, 410 died under one year old and 575 under five years In one week there was no death from diphtheria reported, the first time since 1901 In one week the death rate was only 11 58 per 1,000, and in another 12 06

MISSOURI

Will Elevate Standard—The following requirement was approved by the State Board of Health, and became operative July 5

> Every applicant for license to practice medicine in the state of Missouri shall present documentary evidence of having a university or college degree or high school diploma In lieu thereof, said applicant must pass a satisfactory examination before the state superintendent of public instruction on all branches embraced in a four years high school course
>
> This is an absolute requirement and no applicant will be allowed to enter the examination without having complied with this order

Licenses Revoked.—The State Board of Health, on July 6, revoked the license to practice medicine of Dr Samuel F March, secretary of the Kansas City Eclectic Medical University, who was charged with issuing irregular affidavits to students who graduated from the college last spring He was summoned before the board and admitted that the affidavits were irregular The board also revoked the license of J F Duvall, charged with obtaining a license from the board on one of the irregular affidavits of Dr March A license to A S McCleary was refused because his affidavit was also one of the irregular ones sworn to by Dr March The applications of five other members of the school's graduating class of last spring were considered Their records were found to be clean and the board voted to issue them licenses

NEW YORK

Convalescent Ward—A convalescent ward is being built at the Fresh Air Mission Hospital at Athol Springs

Personal.—Dr John Van Duyn has resigned from the Syracuse Board of Education ——Drs Nathan W Soblet and William S Rambo, Rochester, have been appointed local examiners in midwifery

Disinfection of School Books.—The Buffalo Department of Health is disinfecting 109,650 volumes of books of the public schools by the use of formaldehyd gas Since this work has been undertaken by the city there has been a decrease noted in contagious diseases, particularly scarlet fever and measles

Joint Meeting—After due consideration on the part of the officers of the Northern New York Medical Association and of the St Lawrence County Medical Society, it has been decided to hold the meeting of both bodies on October 18, at Ogdensburg, N Y, the association holding session during the afternoon and the society in the evening

High June Mortality—The total deaths for June were 10,997, or about 1,500 in excess of the average for that month in the last five years This is partially to be accounted for by the increase in deaths from violence in New York City, due to the *General Slocum* holocaust Deaths from cerebrospinal meningitis were the same as in April, and those from consumption exceeded the deaths from this cause in June, 1903, by 150

State Commission in Lunacy Appointments.—Dr Sidney D Wilgus, New York City, has been appointed by the State Commission in Lunacy as chief examiner, with a salary of $5,000 The last legislature passed a law creating a state board of alienists to act in concert with the United States examiners at the port of New York in the inspection and return to their own country of all emigrants suspected of insanity, epilepsy or imbecility As assistant examiners and members of the board the commission appointed Dr George D Campbell of New York City, and W E Sylvester of College Point, each with a salary of $3,000

New York City

Summer Home and Hospital for Poor Children—Miss Margaret L Chanler has transformed her house into a summer convalescent home and hospital for poor children, especially of Christ Church parish

Shrady Resigns—Dr George F Shrady, after nearly forty years of continuous service, has resigned the editorship of the *Medical Record*, Dr Thomas L Stedman, who has been associate editor for nearly twenty years, being appointed in his place The personnel of the editorial staff, it is said, remains as before Dr Shrady's resignation

Contagious Diseases—For the week ended July 30 there were reported to the sanitary bureau 341 cases of tuberculosis, with 170 deaths, 202 cases of diphtheria, with 24 deaths, 183 cases of measles, with 8 deaths, 88 cases of scarlet fever, with 8 deaths, 83 cases of typhoid fever, with 13 deaths, 11 cases of varicella, 1 case of smallpox, and 25 deaths from cerebrospinal meningitis

Rockefeller Institute Plans—The plans for the Rockefeller Institute have been filed and work will be begun soon It is estimated that the building alone will cost $325,000 Mr Rockefeller has already donated $1,200 000 In addition to the most perfectly equipped hospital in the world, there will be scientifically constructed accommodations for horses and other animals to be used for purposes of inoculation One of the first enterprises of the institute will be the endeavor to find and identify the germ of dysentery, and to ascertain means of preventing and curing the disease

NORTH CAROLINA

Wake Forest School of Medicine has commenced work on its new building, which is to cost $30,000 The cornerstone was laid at commencement time, and Dr J Allison Hodges, Richmond, delivered the address before the medical class

Donation for Negro Hospital—Dr William H Sprunt, Wilmington, has donated $10,000 to build an annex to the James Walker Memorial Hospital, to be used in erecting a dormitory for nurses, and a building for the exclusive care of negroes

Smallpox in the State—For the year ended May 1, 1904, 5,370 cases of smallpox were reported, 914 more than for the previous year, with 69 deaths In Guilford County there were but 101 cases, of which 94 were among the whites Robeson County reports 1,000 cases of which 300 were among the whites In Madison County there were 587 cases, all but 12 being among the whites The disease was of a bad type in Davidson County, where 25 deaths resulted.

Commencements—North Carolina Medical College, Charlotte, formerly the Davidson Medical School, at its first commencement exercises, graduated a class of 17 Dr J Howell Way, Waynesville, delivered the doctorate address, and Dr J T

Monroe, Davidson, presented the diplomas ——The Medical Department of the University of North Carolina, Raleigh, held its graduating exercises at Chapel Hill A class of four received diplomas, and Dr Louis J Picot, Littleton, delivered the address of the evening

State Society Election—The fifty first annual meeting of the Medical Society of the State of North Carolina was held at Raleigh, May 24 26 The following officers were elected President, Dr David T Tayloe, Washington, vice presidents, Drs Charles A Julian, Thomasville, John T Burrus, High Point, and Isaac W Faison, Charlotte, secretary, Dr J Howell Way, Waynesville, treasurer, Dr Granada T Sykes, Grissom, Dr Chase P Ambler, Asheville, orator, and Dr John H Tucker, Jr, Henderson, essayist The society is to meet at Greensboro next year

NORTH DAKOTA.

Cass County Physicians.—Dr John D Hennings, Fargo, has been appointed physician of Cass County, with the following assistants Drs Krekore H Mallarian, Fargo, A F Goffelee, Grandin, Evan Hyslin, Kindred, Samuel Mitchell, Mapleton, Kelsey, Erie, Hezekiah J Rowe, Castleton, Henry G Fish, Wheatland, William Scanlan, Page, and John W Campbell, Tower City

State Society Meets.—At the meeting of the North Dakota State Medical Society in Fargo, much time was taken up in the consideration of the new constitution and by laws to correspond with those of the American Medical Association Dr James A. Rankin, Jamestown, was elected president, Dr Paul Sorkness, Fargo, vice president, Dr Ernest C Wheeler, Fargo, secretary, and Dr William H. M Philip, Hope, treasurer

June Vital Statistics.—During June 288 births were reported to the State Board of Health and 118 deaths Fourteen cases of tuberculosis were reported, with 11 deaths, 7 cases of typhoid fever, with 2 deaths, 22 cases of diphtheria, with no deaths, 21 cases of scarlet fever with 1 death, 8 cases of measles, with 1 death, 0 cases of smallpox, with no deaths, 9 cases of other contagious diseases, with no deaths, making 15 deaths from contagious diseases

OHIO

Must Include Anatomy—The Ohio Medical University Columbus, will no longer allow credits on the degrees issued by colleges unless the prescribed courses shall include anatomy and other essential studies

Mayor's Veto Sustained—The last official communication of the late Mayor Jones of Toledo to the city council was a veto of an ordinance granting right of way to physicians and ambulances, on the ground that it established a special privileged class The veto was sustained by a vote of 9 to 7

Anti-Tuberculosis Dispensary—The trustees of Western Reserve University, Cleveland, have voted to take part in the conflict against tuberculosis by establishing a dispensary in connection with its medical department, whose function will be chiefly preventive It registers those infected with the disease, locates houses in which tuberculous people live, educates the people along fundamental hygienic lines, and its agents visit the homes of the sick, and give instruction in the care of those afflicted with the disease

Toledo University Department of Medicine—The Toledo University has established its medical department, Toledo Medical College The work under the new auspices will begin next month The following named men have been selected as faculty of the new department

Drs William A. Dickey dean Park L Myers, secretary Joseph T Woods, emeritus professor surgery and clinical surgery John North emeritus professor nose throat and lungs Hon D R Austin emeritus professor medical jurisprudence Drs William J Gillette professor gynecology abdominal surgery and clinical surgery William A Dickey professor principles and practice of medicine and clinical medicine Daniel E Haag professor therapeutics, microscopy and clinical medicine Park L. Myers professor chemistry toxicology and state medicine Willis W Grube professor clinical medicine and lecturer on anesthetics Oscar Hasencamp professor principles and practice of medicine and electro-therapeutics James Donnelly professor principles and practices of surgery and clinical surgery David F Bowman professor of obstetrics Elmer W Heltman professor ophthalmology and otology Lyman A Brewer professor surgical and clinical surgery Bernard Becker professor surgical pathology John S Pyle, professor physiology and embryology James A Duncan professor proctology Louis Miller professor nervous diseases Julius H Jacobson lecturer on physical diagnosis and clinical surgery at Lucas County Hospital George F Wells LL.B professor medical jurisprudence Drs Herbert E Smead professor of pediatrics Howard L. Green lecturer on minor surgery Charles Louy lecturer on osteology syndesmology and assistant demonstrator of anatomy Adolph J Girardot lecturer on materia medica William H Fisher lecturer on gynecology and clinical surgery Albert L. Sternfield professor histology pathology director of biologic laboratories and instructor in clinical microscopy Nelson H Young lecturer on mental diseases Edwin D Tucker lecturer on dermatology Louis M Dolloway lecturer on nose and throat Madison E Baldwin lecturer on genito-urinary diseases James T Lawless special lecturer clinical surgery, St. Vincent s Hospital, and L. A. Levison lecturer on anatomy

PENNSYLVANIA.

Typhoid Fever at Pittsburg—The bureau of health reports the prevalence of typhoid fever in Pittsburg and states that the number of cases bids fair to equal or surpass the record of last summer

Butler's Water Supply Improved.—Tests of the water supply of Butler have been made at varying intervals since the epidemic In all 25 tests have been made, and all thus far have been favorable The last two tests were conducted by Dr Francis C Phillips of the Western University of Pennsylvania, who reports that the specimens contained 15 and 21 bacteria per cubic centimeter and that the colon bacillus was not found.

Philadelphia.

To Enforce Vaccination.—The report of the 50 medical inspectors for last week shows that 6,674 visits were made, that 900 vaccinations were performed, and that 194 persons refused to submit The names and addresses of these individuals are registered in the department of health and rigid measures will be instituted to enforce vaccination

Health Report—The city's health continues exceptionally good The deaths reported for last week aggregated 428, a decrease of 6 from last week and an increase of 5 over the corresponding period of last year Smallpox has entirely disappeared, no cases having been reported since July 9 This is the longest period the city has been totally free from the disease for several years Typhoid fever, on the other hand, continues present throughout the city, though the disease is most prevalent in the district of Kensington The cases reported for the week numbered 84, an increase of 22 over last week There were 179 cases of contagious disease reported

Health of Pupils.—The report of the inspection of public schools for April, May and June shows that of 155,707 children examined, 6 936 were excluded because of disease. In 5,150 the eyes were affected. Of this number 1,807 were obliged to wear glasses, 317 schools were visited, comprising the combined grammar and primary, the grammar, primary, combined primary, consolidated, combined grammar, kindergarten, and special schools Among the principal causes mentioned for the exclusion of the pupils were Pediculosis, 3,854, ringworm, 434, defective vision, 421, eye affections, 420, tonsillitis, 349, impetigo, 407 The inspection is to continue monthly after the schools open next month, as the results show that the general health of the pupils is decidedly improved.

Hospital Work for July—At St Agnes Hospital 164 patients were treated in the wards, 593 new cases and 2,103 old cases were treated in the various dispensaries ——In St Joseph's Hospital 298 patients were treated in the wards and 2,507 patients in the different dispensaries ——In the Presbyterian Hospital 422 patients were treated in the wards, and 2 382 in the dispensary ——In the Medico Chirurgical Hospital 103 patients were treated in the wards, 1,313 in the surgical dispensary, and 1 325 in the eye department A total of 5 899 patients was treated during the month ——Three hundred and thirty five patients were admitted to the wards of the Pennsylvania Hospital, 2,193 were treated in the receiving wards, and 5,746 in the out patient department ——In the wards of the Episcopal Hospital 287 patients were admitted and 285 discharged, and in the different dispensaries 7,711 patients were treated

FOREIGN

French Donations to the Russian Red Cross—The ambassador of France to Russia has presented to the Russian Red Cross the sum of $23,000 raised by subscriptions through the lay press of Paris

Number of Medical Students in Germany and Switzerland.—The number of medical students enrolled in the universities of Germany for the current year is 6 049 In Switzerland there are more women than men studying medicine the total being 1 654, of whom 801 are women, mostly Russians

Record-Breaking Fees.—The community of Kallstadt, Germany has about 1 100 inhabitants, and has recently installed a medical school inspector with the annual salary of 25 marks, or about $6 25 He is to have about 155 school children to inspect four times a year He thus receives four cents for each child, or one penny for a single examination

Warning Against the Study of Medicine—The organized profession in Germany has issued a circular warning youth against the medical career It points out the over crowding of the profession in comparison to the population, and depicts the material depression prevailing in its ranks from the lack of restrictive legislation against quacks and of regulation of the sickness insurance societies

Ross and Weir Mitchell Elected to the Paris Academie de Medecine—The candidates for the two vacant places of corresponding members in the medical section of the French National Academy of Medicine were Ronald Ross of Liverpool, our own Weir Mitchell, Mosso of Turin, Ehlers of Copenhagen, Unna of Hamburg and Pick of Prague Ross and Weir Mitchell were elected by large majorities at the meeting on July 19

Konig's Retirement—Frank König of Berlin has just witnessed the completion of the model surgical clinic erected for him at the Charité, and now he retires, as he has passed the age of 72 His successor is already announced, A von Eiselsberg of Vienna, Billroth's favorite pupil He has already been connected with a German university, having been professor of surgery at Königsberg, 1895 to 1901, after having served a term at Utrecht

Loss to Science of a Living Students' Manikin—The death is announced of the Vienna woman, who supported her family by serving as a subject for the study of the upper air passages She had followed this means of livelihood for twenty years, and had cultivated her vocal organs so that she had voluntary control over them and could hold them still, even when they were being touched, thus affording incomparable opportunities for study of the respiratory organs She had also learned so that she could tell the investigator when his instrument was following a false route or any other mistake was being made She always carried a number of "foreign bodies" in a black bag, and would introduce one at a time into the upper air passages and allow the student to search for and extract them

Russian Tributes to their Japanese Opponents.—The *Russische med Rundschau* quotes a Russian physician, who has lived long in Japan, to the effect that the most astonishing cleanliness and system reign in all the Japanese Red Cross hospitals and dispensaries The beds are wide and remarkably neat A letter from a Russian physician at the seat of war (Wafangou), published in the last *St Petersburg med Wochft*, describes the battles of June 13 and 14 as "frightfully bitter" "Nothing was to be seen and heard but smoke, dust, noise, thunder and tumultuous din The Japanese came on with an altogether unexpected and all compelling energy Our troops behaved nobly, but no one could withstand the firing The tops of the hills were literally swept bare of foliage, and after the battle looked like ploughed fields"

New Technic of Sex Determination.—Ducceschi and Tallarico of Florence, Italy, recently described researches which signalize a new, rational and ingenious mode of studying the problems of the determination of the sex of the embryo Their communication was presented to a local scientific society and published in the *Archivio di Fisiologia* for July It is based on the recently established fact that after injection into an animal of the elements constituting an organ in an animal of a different species, the serum of the first animal acquires a destructive action for the organ in question They assumed, for instance, that injection into a gravid animal of substances known to have a specific, destructive action on the testicles, would entail the passage of these substances into the fetal organism, and have an inhibiting action on the development of the male sexual organs, while the female sexual organs would not be affected. Consequently, if the injection were made in the earliest stages of gestation, before the sex of the fetus was actually established it would prove the determining factor in deciding the sex of the embryo They have been experimenting with an orchi-toxic serum on gravid guinea pigs, and although their experiences are as yet very limited, they suggest a promising field for further research

Discovery of the Micro-Organism Causing Pulmonary Phthisis—Prof Otto von Schrön of Naples is one of the most venerated masters of pathologic anatomy of the Italian school He has recently announced that tuberculosis and phthisis of the lungs are two separate morbid entities, although very frequently they may occur together in the same individual The causal agents differ in each, by their structure, morphogenesis and biologic characteristics The accumulations of caseous material in the phthisic lung are not necrotic tissue as hitherto supposed, they are formed by a highly organized germ, which grows in threads and branches, an arborescent microbe, with distinct fructification, taking stains readily, in all the phases of its morphogenetic evolution It can be obtained in pure cultures by the drop method or in symbiosis with the bacillus of tuberculosis in cultures *in vitro* The phthiseogenic microbe substitutes the lung tissue, and does not cause necrosis like the toxins of the tubercle bacillus Each phthisic cavity presents three layers, the outer one formed by the evoluting forms of the microbe, while the inner layers are the dead and decaying forms, sometimes with and sometimes without the presence of tubercle bacilli It has a certain superficial resemblance to hyphomycetes, but differs in essential points The arborescent ramifications can be seen with a Zeiss oil immersion 1/18, but Schrön has devised a technic for investigation by which the ramifications can be seen with the naked eye We find life in the caseous material where we supposed there was nothing but death and decay He calls it the filiform microbe, as the thread formation is its most striking characteristic, possibly compelling its classification among the fungi It passes through a phase of thread and capsule formation, with a racemose and lichenoid growth, and finally into mucous metamorphosis, which is the stage in which it appears usually in the sputa It does not take the same stains as the tubercle bacillus, but stains readily with certain others The products of its secretions are prisms with a hexagonal base, polarizing light, while the products of the tubercle bacillus are non polarizing rhombi Both forms of crystals are generally found in the sputa of phthisic subjects

Correspondence.

Co-ordination Between Clinical and Didactic Work.

PHILADELPHIA, Aug 2, 1904

To the Editor—May I avail myself of the opportunity, which your Educational Number will give, of expressing some views on medical education arrived at after a number of years' service as a teacher of clinical medicine? The remarks I shall have to make relate to the practical branches only, the teaching of the purely scientific subjects is quite another matter I wish further to add that my remarks have reference to the senior year of study Physical diagnosis, clinical pathology and history taken properly belong to the pre-senior years

It would be impossible to draw up an ideal scheme for the teaching of medicine and surgery without taking into consideration available material, its distribution and other local conditions, the number of students, etc Whatever the conditions, there must be a co ordination of different methods of teaching and a suitable apportionment of the student's time When laboratory and clinical teaching were introduced into the curriculum of medical schools many were led to the conclusion that the didactic lecture was doomed to suppression, a conclusion which seems to me unwise and unwarranted by experience It may be freely granted that the amount of time devoted to such lectures in some schools is still excessive, but, on the other hand, it is too exalted appreciation of practical work that would supplant the lecture entirely The presence of the teacher, the *vox viva*, and the resulting impression made on the average student's mind give the didactic lecture an advantage over text book study that is real and appreciable Practical work must not be compared with the lecture for no amount of clinical material and no reasonable lengthening of the medical course would make it possible for the student to gain the desired acquaintance with disease in its many variations through practical work done in the medical school The comparison properly lies between didactic work and text book study, and here certain advantages are undoubtedly on the side of the lecture Reading must, of course, form a supplemental part of the student's training, and I am not disposed to deny that there may be a student now and then who could with advantage omit the lecture in favor of study, but such individuals are exceptional

The subdivisions in the practical teaching of medicine and surgery now commonly recognized are The clinical lecture clinical conference, ward class, work in the wards of the hospital and dispensary, and laboratory classes Each of these has a separate sort of usefulness and must be given a share of the total available time in accordance with local facilities. Nowhere, however, can the best results be achieved unless the advantages of these different methods of instruction are secured.

The ward class is valuable according to the way in which it is conducted. My experience with students at the University of Pennsylvania has been that they learned more of that which it is most important to learn, in ward classes than in clinics, clinical conferences or work in the wards. The ward classes are composed of not more than ten men, and each group is taken to the bedside by an instructor, who usually demonstrates but one case during the hour. The instructor reviews this case thoroughly, taking up the history, the symptoms and the physical examination systematically. The classes are small enough to allow each student to percuss, auscultate, etc. The important advantage of such a class is that it teaches *method*, and it is method more than a mere collection of facts that should be taught in practical courses. Compare such a class with the large "ward classes" of the English schools and the advantage of the former becomes obvious. The English ward class, as I have seen it conducted, is a class of from 20 to 30 men, who walk through the ward, stopping at one bed after another, to be shown some interesting feature in this or that case. The result of such a plan must be to teach superficiality and unmethodical work. In reality this is not a ward class at all, the same instruction could be given equally well as a large clinic.

An institution committed to the small ward class method must be prepared to supply a large number of instructors for the subdivision of the class in several fold as great as when the larger classes are given. At the same time the number of teaching hours given to each student will necessarily be less than could be given to larger groups, but the advantage of the method more than compensates for the reduction in hours, whatever appearances may seem to indicate.

The value of ward work depends on the system and to a large extent on the student. Our method is to assign the members of the fourth year class to duty in the wards, each student being placed in charge of certain beds. During one hour each day he is required to examine his patients, make blood counts, urine examinations, etc., under direction of the resident physician, the following hour one of the physicians or assistant physicians makes the "rounds" accompanied by all the students working in that ward. At each bed he questions the student in charge and discusses the case briefly with all. Valuable as this method is when combined with the ward class (or, better still, when preceded by the ward class), the ward visit taken by itself would be inadequate. It gives the student a certain responsibility and independence which brings out his best work under proper guidance, but unless the supervision is immediate and constant (which is almost impossible) it fails, unless provision is elsewhere made to teach the required method.

The clinical conference is properly compared with the larger ward classes alluded to before. Our method is to assign two students to a case in the ward and to discuss this case with a group of from 25 to 50 students before whom the two, specially selected to study the case, make their report a week after the assignment. A number of the students may be called to the bedside to confirm or correct assertions of those reporting the case, thus increasing the interest of the class and at the same time utilizing the material for the benefit of the greatest number possible. The advantage of the clinical conference is that it gives the student the greatest independence in case study with the subsequent advantage of criticism by his fellows and the instructor. It can not however, supplant the ward class or ward work.

The general clinic or clinical lecture has somewhat the same advantages as the didactic lecture in so far as the spoken words of an experienced teacher impress themselves on the student's mind more indelibly than the best text book descriptions, and the practical demonstration of the method of obtaining a history, of conducting a physical examination and of forming deductions is of incalculable advantage. It may be said that but few of the students in a large clinic are near enough to the operations or even the visible signs in medical cases. This is undoubtedly a defect of the general clinic, but its other advantages make it indispensable in a properly rounded medical course. As long as judgment based on experience and deduction are a necessity to medical diagnosis, the practical exposition of a master's method will be a useful part of teaching. Physical examination, the procedures of microscopic and chemical investigations and the systematic consideration of symptoms may be better taught in the ward class, laboratory, didactic lecture or library, but diagnosis in its broadest sense and refinements of treatment are best imparted in the clinic.

Work in the hospital dispensary or out patient department and laboratory classes are properly a part of the pre-senior year of study, as they are in most respects preparatory to the finished work of the last year and necessary to the student's proper utilization of the advantages of his final year of study.

Whatever proportion of time is properly allotted to each of the methods of practical teaching, it is always important that the peculiar advantages of the methods be recognized to the end that their individual merits may be realized. Clinics are sometimes conducted as didactic lectures, while ward classes or conferences are converted into clinics. Such changes detract from the system as a whole and defeat its proper purpose. Above all else, the most essential requisite to successful teaching is a well conceived system conscientiously carried out.

ALFRED STENGEL.

The Failure of the Laboratory Worker as a Practitioner

GALESBURG, ILL., Aug. 1, 1904.

To the Editor:—I was one of those who enjoyed the hospitality of the University of Pennsylvania during the dedication of its new medical laboratories at the close of the Atlantic City session. I was greatly impressed, as every one of the Association members must have been, with the evident completeness of the great building for the purposes for which it was designed. I was also interested in viewing the exhibit of the work which had been done in recent years by the students in the medical department, the exhibit from the course in surgical pathology being especially fine. From Philadelphia I went to one of the coast cities in the East, where a large number gather each year for medical instruction. There I learned personally of some of the methods of instructing medical students, both graduate and undergraduate.

It has been my privilege and pleasure within a few years to have associated with me some of the younger men who were the products of the present educational methods in medicine. I regret to say that what they brought to me, practically, was not an unalloyed advantage. In three instances they had been sent out from as many recognized schools. One graduate, indeed, was thrice the recipient of a gold medal for proficient and accurate work during his medical course. But in the small laboratory of a fairly successful practitioner, and away from the apron strings of their instructors, the accurate and therefore usable knowledge which these young men possessed was a minus quantity. To one who had been trained in a large eastern school at a time in the long ago, when twenty lessons comprised the course in histology, pathology and bacteriology, it was felt that these young men were needed. They came, and they all went the same road. For pathology they brought guesswork, for bacteriology, guesswork, for blood and urinary examinations, guesswork.

Now, some one in defense of these young men, may say that the above statements can not be literally true, if the young men were of average ability. But their average ability was and is unquestioned, and they were given every facility for scientific work. True it is that they possessed knowledge of these subjects, but it was rudimentary to the degree that it did not rise above the rule in any well regulated physician's office making no pretensions to special knowledge. With an experience such as this, educational methods in medicine had an added interest.

In the city last referred to I visited one school which, however, does not possess the degree giving power, but whose facilities for good clinical work are recognized everywhere In the four weeks that I was there I saw and heard some things that, partially, at least, explain why my assistants, when they came out of school, were not ready to practice medicine any more than were their forefathers To illustrate One young man who had been in practice six years came in to take a course on the blood and urine He had but two weeks to devote to these subjects, and knew nothing of them except what was gained from his college course six years before He commenced his work by studying the urine with the microscope, and continued this until two days before he was to leave the school In the remaining two days he was given instruction on the blood This consisted of the writing in a book by the instructor of the names of the various objects found in the blood plasma, also a demonstration as to the method of counting the red blood corpuscles This was the first day The second and last day of the course was devoted to counting the white blood corpuscles, and the exhibition of a number of slides showing the various forms of the malarial plasmodium

During the course the instructor was overheard to remark to this would be seeker after medical knowledge that he was very fortunate in taking special instruction on these subjects, because in the regular graduate schools it was impossible to devote the time necessary for their proper understanding This instructor must have known, because he holds a professor's chair in one of the eastern graduate schools

I know this to be an extreme illustration, but, unfortunately, when we attempt to grade up we find enough of incomplete medical instruction in all of the schools, both east and west, to account for the personal experiences related above And so I am going to venture the criticism, without knowing much about the subject—except from the standpoint of the user of the products of these methods—that too much that is impracticable for use by the busy practitioner working alone, is attempted in our schools

Many patients will prevent the unaided physician from even attempting an accurate diagnosis, hence medical men are drifting into specialism, because they instinctively feel that this will give them a better opportunity to see a larger number of cases of one class All things being equal, it will, but the result usually is that we then have a one sided practitioner, which is unfortunate both for medicine and the public After the specialist has learned his limitations he calls to his aid other specialists This has brought about the newest phase of the practice of medicine, known as "passing them around"

As a general proposition, the man in medicine, be he general practitioner or specialist, working alone, is seriously handicapped because time prevents his using the very methods that would mean so much for him in the betterment of human health The lone specialist, under these conditions, can not hold his place, and the general practice of medicine will likewise fail to progress in proper measure until some method can be adopted whereby the profession, in larger numbers, can really use the facts provided by the schools and laboratories Too many subjects are imperfectly taught, the profession crowded with more than it can carry in the way of undigested knowledge This can be said of all professions, and all teaching, but it ought not to be true of medicine The public has been taught of late that the science of medicine is traveling in seven league boots This is true in the greater measure only of that part which deals more particularly with the investigation and experimental side of medicine I repeat, unfortunately, the results attained by this class of workers can not find its highest place until it can be utilized by all The schools and laboratories are never going to get this knowledge into the hands of the profession while the present methods for its dissemination are depended on The supply is greater than the ability of the average man to use it

That a way to use it will be found finally I am convinced I am not so sure but that the way has already been pointed out The men who have formed (in the larger cities mainly) the more or less loose alliance whereby it is possible to follow the reprehensible practice of passing patients around, point the way These practitioners are usually a bunch of specialists who are agreeable to each other

The ideal state will be when these men are gathered together in one office and under a joint management A patient entering such an office would be thoroughly examined during his first consultation The results of such an examination, submitted to the general medicine man of the combination, or the surgeon, would insure in the beginning that consideration which is absolutely necessary for the patient's ultimate and best welfare Only by some such method as this can the advanced work of the colleges and laboratories be utilized

J F Percy

Indorsement in Lieu of Reciprocity Between State Licensing Boards

Camden, N J, July 5, 1904

To the Editor —I take pleasure in forwarding you resolutions on the New Jersey method of interstate exchange of medical licenses, which I introduced at the last meeting of the National Confederation of State Examining and Licensing Medical Boards, Atlantic City, June 6, 1904 After discussion the resolutions were ordered to lie on the table, to be printed by the secretary, distributed among the members and presented for consideration at the next meeting I would be obliged if you would print them in The Journal E L B Godfrey

Secretary of the State Board of Medical Examiners of New Jersey

THE PROPOSED RESOLUTIONS ON INTERSTATE INDORSEMENT VS INTERSTATE RECIPROCITY

Whereas, National legislation can not affect the question of state jurisdiction in medical practice without the surrender of definite state sovereignty and

Whereas State medical examination is the basis for state medical license or the indorsement of a license issued after an approved examination of another state, and each state is the judge of the qualifications of its medical licentiates and

Whereas It is manifestly unjust and a cause of open complaint by the profession to compel an experienced physician licensed after a state examination, to undergo a second examination (practically a re-examination in the same elementary branches) on removing from one state to another, when the requirements for medical license in the two states are substantially the same, or lower in the state from which indorsement is asked therefore

Resolved That it is the sense of this confederation that, among those states whose standards of requirements are equal or substantially the same, their licentiates by examination who can meet the moral academic medical and examining requirements of the state whose indorsement is asked, are entitled to and should be indorsed, irrespective of reciprocity

Resolved That when the standard of requirements of any two states are unequal it is in the interest of the profession that the state having the lower requirements should indorse the examined licentiates of the state having the higher requirements irrespective of reciprocity when such candidates can meet every legal and educational requirement of the indorsing state.

Resolved That reciprocity limited by statute to reciprocating states which demands equal rights and privileges in return as conditions of indorsement with the purpose of compelling recognition of its own licentiates is detrimental to and retards the progress of the profession because 1 It restricts the extension of indorsement by its limitations 2 It causes hardship to the profession because of its uncertain tenure 3 It excludes indorsement from states having higher requirements by reason of which reciprocity can not be effected 4 It refuses recognition to distinguished physicians of non reciprocating states 5 It recognizes neither the merit of a state examination nor that of the licentiate as compared with reciprocity 6 It tends to maintain standards at the level of the lowest reciprocating state and offers no inducement for a state to raise its standards above those of its reciprocating neighbors 7 It practically involves an omnibus indorsement, without inquiry as to the status of the individual candidate and without discrimination since all licentiates of a state stand legally on an equal footing 8 It is impractical for adoption by any considerable number of states, because of the difference in state laws standards and population

Resolved That reciprocity based on a voluntary agreement of state boards is like statutory reciprocity impractical because 1 There is no uniformity in state laws and no ability to enforce them 2 When differences arise between examining boards in respect to the status of colleges the grade of examinations or the eligibility of candidates rejected by one board for examination by another there is no law national interstate or state to adjust the differences or to enforce the agreement which may be broken at the pleasure of either board and without redress

Resolved, That interstate indorsement authorized by statute and exercised at the discretion of a state medical licensing board irrespective of reciprocity based on the substantial equality of educational requirements on a state examination satisfactory and approved as to kind and grade and on the individual merit and the professional qualification of the candidate for indorsement is far better than indorsement based on either statutory or voluntary reciprocity and tends more than either to further the cause of higher medical education and the autonomy of the profession throughout the country 1 It is good state policy since it neither denies citizenship nor the right to practice to any physician entitled through merit to its privileges. 2 It makes the state the sole judge of the qualifications of its licentiates by enforcing the same requirements for indorsement as for examination for license thus placing all licentiates on the same footing 3 It accepts a state examination for what it represents as an examination but not as more important than the merits and qualifications of the candidates for indorsement 4 It tends to raise and maintain a high standard of education by making a license from a state with high requirements more widely acceptable for indorsement than one from a state of low requirements and thus admits of early national application. 5 It requires legal evidence of individual merit as well as professional qualifications for approval for indorsement and this tends to reduce to a minimum the indorsement of irregular itinerant practitioners. 6 It puts a premium on character and education and renders the best practitioners eligible for indorsement in every state 7 It indorses both the state and the individual candidate and failure of a state to reciprocate therefore does not afford either a legal or valid reason for rejecting any of its licentiates who can meet every requirement of the statute 8 It may accept any of the examined licentiates of a state for indorsement or only those examined and licensed under the most recent requirements

Resolved That a state that will not indorse the examined licentiate of another state where the standards are co equal or of a state where the standards are higher stands as a hindrance to medical progress because 1 It does not recognize the efficiency once proved by examination in a state of co-equal or higher requirements 2 It limits the working sphere of the profession 3 It exacts the same requirements for license from the physician duly licensed after an examination in a co equal state and experienced by years of practice that are exacted from the inexperienced graduate

Resolved That indorsement therefore irrespective of reciprocity should be granted to examined licentiates of states whose standard of requirements is co-equal or higher when the candidate for indorsement can meet in all respects the requirements of the statute governing the practice of medicine

THE UNCONSTITUTIONALITY OF INDORSEMENT

Sault Ste Marie, Mich , Aug 1, 1904

To the Editor —The resolutions submitted by Dr Godfrey, at the meeting of the National Confederation of State Medical Examining and Licensing Medical Boards, were promptly tabled by the confederation, but, unfortunately for the cause of reciprocity, were ordered printed and distributed, with the possible effect of again clouding the reciprocal atmosphere (I see that the *New York Medical Journal* indorsed them, June 18) in an attempt to solve a simple problem by a method which is clearly unconstitutional and impracticable, and which lacks even the merit of an ordinary knowledge or understanding of the present status of medical reciprocity in the several political divisions of the United States These resolutions ignore, altogether, the fact that over a dozen of the better states are at the present time exchanging licenses through reciprocity agreements on a perfectly satisfactory and practical basis, and that any one or all of such reciprocating states, through actual experience, can testify to the incorrectness of the conclusions and deductions recorded in the resolutions mentioned

These resolutions are based on the fundamental principle that interstate reciprocity and interstate indorsement are only practical and of value when applied to those practitioners who obtained their licenses on the basis of an examination before a state board of medical examiners As this class of practitioners represents less than 10 per cent. of the reputable physicians in the United States, and include only those of recent graduation, the expressions used in the resolutions, i e, "hardship to the profession," "refuses recognition to distinguished physicians," "placing all licentiates on the same footing," etc , seem ludicrous and ironical in the extreme I would ask in all seriousness, how many of the eminent practitioners of this country have obtained their state licenses on the basis of an examination before a state medical board?

Several of the state medical boards, including that of New Jersey, are committed to the policy of recognizing for interstate exchange certificates of registration or licenses obtained solely on the basis of an examination on stated subjects before state medical boards It may be of interest to these boards to learn that any scheme of medical reciprocity which includes only licentiates who obtained their medical licenses on the basis of a state board examination, and which excludes licentiates who obtained their medical licenses on the basis of a college diploma, is unconstitutional, and unquestionably would be held so by any one of the several state supreme courts or the United States Supreme Court, for the following reasons

1 State legislatures have authority to make reasonable provision for determining the qualifications of those engaged in the practice of medicine, and in connection therewith to create a tribunal, whether called a court or a board of registration, to administer such provisions

2 State legislatures have up to a certain date provided as a qualification for registration or license subsequent to the passage of medical acts, a single examination of a certain grade, either by a state board of medical examiners or by a faculty of a medical college recognized by a board of medical registration and examination in lieu of such examination More recent legislation in many states provides, however, for a double examination for license—one by a recognized faculty, and one by a medical board

3 Up to the date of a double examination requirement by a state board, the legal status of a college faculty examination fully equals that of a state board examination

4 It is, therefore, illegal and unconstitutional for a medical board to recognize as a qualification for license a state board examination and refuse recognition as a qualification for license a recognized medical college faculty examination up to the date when the law required the double examination qualification

5 It is not legally competent for a medical board whose state law provides for medical reciprocity to adopt, even silently and without resolution, the policy of non medical reciprocity The law presumes proper action by the board in all its provisions, and boards could be compelled, through mandamus proceedings, to administer rightly a reciprocity provision equal to that of an examination provision

The legal point in the matter centers on the examination qualification as a requirement for license, and the fact that two kinds of examinations are equally recognized in law up to the date of a double examination requirement In order to understand the legal point involved, it is necessary to separate the *fact* from the *form*, the latter representing the diploma from the college and the certificate from the board, and the former representing the examination by which the diploma or certificate was obtained The form is of very minor importance and is useful only for identification purposes, but the fact (the examination) contained in the diploma or certificate is the material substance affected by reciprocity

The American Confederation of Reciprocating Examining and Licensing Medical Boards formulated the following qualifications in May, 1902, which are in harmony with the legal points raised above, and its members (fourteen in number) are exchanging licenses on the basis of these qualifications

ARTICLE II

The object of this confederation shall be to establish reciprocal relations between the medical examining and licensing boards of the states territories, districts and provinces of the United States, the purpose of which being that thoroughly worthy and well qualified physicians and surgeons, who have been legally authorized to prac tice under the laws of one of said states, territories districts or provinces may be given legal authority and be admitted to prac tice in any state territory district or province represented in this confederation without a repetition of the tests of qualification to which such practitioner has submitted

QUALIFICATION 1

A certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent was awarded the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought may be accepted in lieu of examination as evidence of qualification provided that in case the scope of said examination was less than that prescribed by the state in which registration is sought the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

QUALIFICATION 2.

A certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state provided that the holder of such certificate had been engaged in the reputable practice of medicine in such state at least one year and also provided that the holder thereof was at the time of such registration the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought and that the date of such diploma was prior to the legal requirement of the legal examination test in such state.

Dr Godfrey's resolutions make much of inequality of state requirements and the difficulties to be met in adjusting them and advocates indorsement in lieu of reciprocity as a remedy Qualification 1 as quoted, provides the only legal equitable and practical methods viz. the supplemental examination

Under the provisions of Qualification 1 it matters not if the requirements of one state are very much higher than those of the other state The inequality can be adjusted equitably in every case without inflicting any hardship on the applicant, and at any time, and it allows for the raising of standards in states at such times and under such circumstances as made necessary by local conditions This qualification eliminates completely a "repetition of the tests of qualification" to which a practitioner has submitted, and this "repetition of the tests of qualification" is the sole reason given for reciprocity No reputable or worthy practitioner can possibly object to fulfilling qualifications which he has not previously fulfilled

Qualification 2 applies to those reputable practitioners who obtained their state licenses on the basis of a faculty examination (college diploma) previous to the date of the double examination requirements (college diploma and state certificate) in states Under this qualification no state is required to accept an applicant whose diploma dates subsequent to the date of the double examination test in such state In other words, the applicant, if he had applied for registration in such state at the time of his graduation, would have been accepted Therefore, the state, under Qualification 2, dates back the application The applicant in addition to a standard qualification recognized as such at the date of issue, at this time also possesses several years of practical experience, which is in itself a legal qualification asset, and has, further, been investigated and recommended by the state in which his professional work has been done

Could any provision for reciprocity be fairer, more equitable, more consistent with constitutional as well as statutory law—broad and yet conservative, insisting on an exact legal qualification at the date of registration, than Qualification 2? It includes fully 75 per cent of those practitioners to whom the benefits of practical reciprocity apply Reciprocal legislation, which provides only for the present and future practitioner and ignores the older and experienced practitioner for the reason that the latter has not obtained his license through a state board examination, is not only irrelevant and unjust, but is also unconstitutional. The only practitioners excluded from medical reciprocity under Qualifications 1 and 2, in addition to practitioners not indorsed by state boards as moral and reputable, are those practitioners who obtained their licenses through a re-registration clause on the qualification of "years of practice" and those graduates of reputable colleges who registered under an exemption clause which permits graduates of colleges in the state responsible for the act to register without examination subsequent to the time of the double examination requirement in such state, and where all graduates from without the state are required to take the double examination requirement.

The above practitioners represent about 10 per cent of the total practitioners of the United States and are not legally entitled to consideration, furthermore, such exemptions are unconstitutional and probably will be declared so in the near future by competent authority, and those practitioners who obtained their licenses through such exemption will face the possibility of being summoned before boards to show cause why their certificates should not be cancelled from the fact that they have been issued through error

No attempt has been made, as far as I am aware, to criticise adversely Qualifications 1 or 2 The fact that they have been endorsed and made active by several of the leading states is sufficient reason for their being considered seriously, and objected to if they do not fulfill exactly the purposes which created them It is strange and unexplainable that in the matter of medical reciprocity eastern state medical boards are not only inactive and unprogressive but fail to appreciate and to accept the practical results which have set aside all their objections against reciprocity

A meeting of the American Confederation will be held at St Louis the last Wednesday in October, and it is to be hoped that the majority of eastern boards will demonstrate their reciprocity consistency by sending fully accredited delegates with power to act to this meeting B D Harison,
Secretary American Confederation of Reciprocating Examining and Licensing Medical Boards, and Secretary Michigan State Board of Registration in Medicine

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List of Tuberculosis Hospitals

New York City, Aug 1, 1904

To the Editor —The National Association for the Study and Prevention of Tuberculosis, in co operation with the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York City, is preparing a directory of the various agencies existing and projected, in the United States and Canada, which care for persons suffering from any form of tuberculosis or which work in any way for its restriction

This directory will include information in regard to hospitals, sanatoria, dispensaries and camps especially designed for tuberculous patients or with especial provision for them, whether public or private, insane hospitals and prisons in which special provision is made for the tuberculous inmates, state commissions and private societies formed for the purpose of investigation or of diffusing information, and a summary of the efforts being made by the boards of health in the principal cities

A tentative list of institutions is given below It is desired to make this directory as complete and as accurate as possible Any additional addresses, therefore, or any reasons why institutions that are included should be omitted, will be welcomed Information about any institution will be considered confidential, if so desired Communications should be addressed

Committee on the Prevention of Tuberculosis,
105 E 22d Street, New York City

TUBERCULOSIS HOSPITALS AND SANATORIA

ARIZONA

Phoenix Mercy Hospital
Tucson St Mary's Sanatorium

CALIFORNIA

Altadena Esperanza
Indio Health Camp
Los Angeles Barlow Sanatorium
Monrovia Pottenger Sanatorium for Diseases of Lungs and Throat

COLORADO

Colorado Springs Glockner Sanitarium, Nordrach Ranch
Denver Agnes Memorial Sanatorium The Association Health Farm The Home National Jewish Hospital for Consumptives
Morrison Resthaven

CONNECTICUT

New Canaan Dr Brooks' Sanatorium
Wallingford Gaylord Farm Sanatorium

ILLINOIS

Chicago St Anne's Sanitarium, Cook County Hospital for Consumptives

INDIANA

Fort Wayne St Rochus Hospital
Indianapolis Flower Mission Pavilion for Incurables

IOWA.

Fort Dodge Boulder Lodge Sanatorium

LOUISIANA.

Covington Ozonia Rest Cure

MAINE

Hebron Oxford Sanatorium

MARYLAND

Baltimore City Hospital for Consumptives
Towson Hospital for Consumptives of Maryland.

MASSACHUSETTS

Boston Boston Almshouse and Hospital
Long Island Channing Home, Free Home for Consumptives The House of the Good Samaritan
Cambridge The Holy Ghost Hospital for Incurables
East Bridgewater The Millet Sanatorium
Boston Highlands Cullis Consumptives' Home Grove Hall
Rutland Massachusetts State Sanatorium Rutland Cottages
Sharon Sharon Sanatorium
Tewkesbury State Hospital

MICHIGAN

Eloise Wayne County Hospital

MINNESOTA

St. Paul Luther Hospital Sanatorium
Walker, Cass County State Sanatorium for Consumptives

MISSOURI

St. Louis Emergency City Hospital No 2 Mount St Rose Sanatorium

NEBRASKA.

Lincoln Green Gables

NEW HAMPSHIRE.

Suncook Pembroke Sanatorium for Tuberculosis

NEW JERSEY

Glen Gardner State Sanatorium for Tuberculous Diseases
Orange Memorial Hospital

NEW MEXICO

Albuquerque St. Joseph Sanitarium
Bayard United States General Hospital
Capitan Public Health and Marine-Hospital Service Sanatorium
East Las Vegas St Anthony's Sanatorium
Santa Fé St. Vincent s Sanitarium
Silver City St Joseph s Sanatorium

NEW YORK

Bedford Station Montefiore Country Sanitarium
Buffalo -Erie County Hospital for Consumptives
Coney Island Seaside Camp for Tuberculous Children
Lake Kushaqua Stony Wold Sanatorium
Liberty The Edgemont Loomis Sanatorium
New York City Brooklyn Home for Consumptives Kings County Hospital Home for Incurables House of Rest for Consumptives Lincoln Hospital Montefiore Home for Chronic Invalids Riverside Sanatorium for Pulmonary Diseases St Joseph s Hospital for Consumptives Seton Hospital Tuberculosis Infirmary of the Metropolitan Hospital
Paul Smiths Sanitarium Gabriels.
Ray Brook State Hospital for the Treatment of Incipient Pulmonary Tuberculosis
Santa Clara Hill Crest and Uplands
Saranac Lake Adirondack Cottage Sanitarium Raymond Cottage Reception Cottage Rumanapp Cottage
Verbank All Saints Home, Priory Farms
Yonkers County Hospital

NORTH CAROLINA

Asheville Dr Stevens' Home Winyah Sanitarium
Black Mountain Franklin Humanitarian Home.
Southern Pines Pineshire Sanitarium for Diseases of the Lungs and Throat Southern Pines Sanitarium

OHIO

Cincinnati Branch Hospital for Consumptives
Cleveland Tuberculosis Sanatorium of the City Hospital
Dayton Miami Valley Hospital

PENNSYLVANIA.

Chestnut Hill Hospital for Diseases of the Lungs
Lansford Switch Back Sanatorium
Mont Alto South Mountain Camp Sanatorium
Perkiomenville Bide-Awhile Sanatorium
Philadelphia The Henry Phipps Institute The House of Mercy Lucien Moss Home, Jewish Hospital Philadelphia Hospital Rush Hospital
Scranton Lakewood Sanatorium West Mountain Sanatorium.
White Haven Free Hospital for Poor Consumptives Sunny Rest Sanatorium

RHODE ISLAND

Burrillville State Sanatorium
Foster Pine Ridge Camp for Consumptives
Providence St Joseph s Hospital

SOUTH CAROLINA.

Aiken The Aiken Cottages

TEXAS

Comfort Camp Reliance.
El Paso Sisters Hospital

VERMONT

South Hero The Champlain Open Air Sanitarium

WASHINGTON

Seattle King County Hospital

WISCONSIN

Kilbourn Wisconsin Dells Sanatorium
Lake Nebagamon Evergreen Park Cottage Sanatorium
Tomahawk The Wisconsin Health Park Association

CANADA.

Kamloops, B C Provincial Sanatorium.
Kentville Nova Scotia Provincial Sanatorium.
Gravenhurst Ontario Free Hospital for Consumptives Muskoka Cottage Sanatorium
Ste. Agathe des Monts Quebec Lahl Ghur

SPECIAL CLINICS FOR THE TREATMENT OF TUBERCULOSIS

Baltimore Out Patient Department Johns Hopkins Hospital
Boston Boston Dispensary
Chicago Dispensaries of the Committee on the Prevention of Tuberculosis of the Visiting Nurse Association
Minneapolis Medical Department of Hamline University University of Minnesota
New Haven Conn New Haven Dispensary
New York Clinic of the Department of Health for the Treatment of Pulmonary Diseases Bellevue Hospital out patient department Gouverneur Hospital dispensary Post Graduate Hospital dispensary Vanderbilt Clinic, Presbyterian Hospital dispensary Harlem Hospital dispensary
Orange N J Orange Memorial Hospital
Philadelphia Henry Phipps Institute Rush Hospital
Providence. R I Rhode Island Hospital
Scranton Pa Free Dispensary for Diseases of the Lungs
Worcester Mass City Hospital

INSANE HOSPITALS WITH SPECIAL PROVISION FOR THE TUBERCULOUS PATIENTS

DELAWARE.

Farnhurst State Hospital for the Insane.

MISSISSIPPI.

Jackson Hospital for Tuberculous Insane.

NEW YORK.

Binghamton State Hospital
Ward s Island. New York City Manhattan State Hospital East.
Willard Willard State Hospital

RHODE ISLAND

Howard State Hospital

VERMONT

Waterbury Vermont State Hospital

SPECIAL PROVISION FOR TUBERCULOUS PRISONERS

Frankfort, Ky Prison Hospital
Stillwater, Minn State Prison.
Dannemora, N Y Clinton Prison
Columbia S C State Penitentiary
Huntsville Texas Wynne Farm

How to Take Notes on Lectures

Denver, Aug 4, 1904

To the Editor —The note-book in the hands of the student comes down to us from the days when medical books were few and costly In the Alumni Register of the University of Pennsylvania for June is the account of the expenses of a medical student of one hundred years ago Among the items in this account we find 'Bell's Anatomy, $22," 'Chaptal's Chemistry, neatly bound, $5 75," and "Barton's Elements of Botany, $6 00"

But in this day, when almost every teacher has his own text book or volume of published lectures, the student no longer needs to provide his medical library for future reference as he sits listening to lecture or clinic The library so provided, judged by modern standards, is sure to be a very poor one But although the note-books when finished may be worthless, a certain amount of advantage may be gained in the writing of them When kept in the usual manner, however, this is more than balanced by the disadvantage of the interruption of thought and attention that comes from writing down the sentence which has been spoken, while the mind should be wholly given to the appreciation of what is then being said

If note-books are to be kept they should be written outside of the lecture room Briefly, the plan is to concentrate the whole attention on what the lecturer is saying, making a little special effort to notice the principal divisions or headings of his lecture and the order in which they are presented Then, shortly after the lecture (at first it is best to do it immediately, and generally before sleeping) the notes are to be written up from memory If the teacher makes a practice of summarizing each day, at the beginning of his lecture, the matters presented the day before, the student may compare this summary with his notes But when the lecture of the day begins the notes should be laid entirely aside.

This plan has been tried often enough to demonstrate that it is perfectly practicable for any student who has sufficient intelligence and preliminary training to profit by the lecture he listens to The note-books produced in this way will be found to contain quite as much of value as those that are immediately jotted down, except in the matter of formulas and statistics, which are much better left to the text-books They will show a better selection of material, a better appreciation of relative importance, than is possible with the immediate jottings But the most important result of the system is that more material and better selected material is left in the memory of the student. The systematic review of the lecture within a few hours after hearing it that this plan compels doubles the value of the instruction received

Of course, a set of note books so prepared, and the training incident to their production, cost some effort, but there is no direction in which the same mental effort can be expended with greater resulting benefit More important than the mere training of memory is the practice in selective judgment of what is brought before the mind This plan, carried out through the medical course, will enable one readily to report in fair abstract, any paper or address listened to, or to gather and hold in mind the important points for future discussion What has been said above does not, of course, apply to the note-book in the dissecting room or laboratory, where facts observed may be noted down, especially by means of diagrams and sketches, with the greatest benefit

Edward Jackson

The Revival of Didactic Instruction

Memphis, Tenn , July 25, 1904

To the Editor —The didactic lecture hall, the recitation room, the clinical amphitheater, the hospital wards and the laboratories should all be utilized to the fullest extent in teaching modern medicine I regret to note the sentiment prevailing in some of our great schools against didactic work No student can read unless he first learns his alphabet Nor can he solve a problem in mathematics unless he knows his figures He can not parse a sentence in English or solve a problem until he has been thoroughly grounded in the rules governing each case

The didactic lecture is the alphabet, the unit one, the rules in teaching medicine Let the didactic professor preach typhoid fever in the most forcible manner, then let the clinical professor teach typhoid fever in the hospital wards I am a hearty champion of didactic work along with clinical Medical schools to day need more men like Pepper, DaCosta, Flint and Gross We need men of culture, men of personality, men with powers of expression, men with clinical instinct, men who have acute observation as teachers Politics is reigning supreme in many of our very best universities In my opinion one of the oldest and greatest universities in this country is absolutely honey combed with politics Schools which are liberally endowed, and which should set the standard of medical education should in every sense eliminate politics for ever Let our schools, whether they are endowed or not, select their teachers with reference to their capacities and not according to their financial or family pull No doubt there is too much technical work Our pathologists and bacteriologists should adopt a better nomenclature The terms now in vogue are harder to memorize and to remember than the muscles of the forearm in Gray's Anatomy There is too much ornamentation of nonsensical terms, and not enough dress of good, plain English

The recitation method is a good one and should be encouraged It stimulates the student body to action and brings him in a more intimate touch with his teacher A more cordial relationship should exist between student and professor **Frank Jones**

The Clinical Teaching Pendulum Has Swung Too Far

Philadelphia, July 29, 1904

To the Editor —My experience with students has convinced me that we have swung a little too far in the direction of clinical teaching, that at the present time we are giving them too few systematic ideas in regard to disease The picture of disease as presented to them in a single clinical case may show but a few of the characteristic evidences of the malady, and may differ widely from the usual and ordinary The student needs in the first place to acquire a thorough outline of the average case, after that he can apply with greater advantage his knowledge to the individual The clinical lecturer as a rule lays especial emphasis on the symptoms of the case before him which may be very misleading, or at least, imperfect

De Forest Willard

Queries and Minor Notes.

UNINTENTIONAL TRESPASS

———, Texas, Aug 2 1904

To the Editor —Dr A was attending Mr X who had parenchymatous nephritis The case was serious and Dr A called Dr B in consultation, after which they advised Mr X to spend the summer at some watering place referring him to physicians there While at the watering place he was treated by the physicians to whom he was referred After a few weeks he returned home and continued the treatment recommended by the latter He was suddenly taken with severe dyspnea and sent for Dr B at 2 o'clock in the morning Dr B went and was asked to continue in treatment of the case as they could not now return to the watering place Nothing was said about Dr A Dr B was under the impression that Dr A had relinquished the case when Mr X went to the watering place, or he would never have taken it Dr A is now offended and Dr B wishes to know if he had committed an error in taking the case. He is very desirous to have the matter adjusted, as the mistake was not made from malice, but only from a wrong impression of the situation **Enquirer.**

Answer —The conduct of physicians in such cases, according to the Code of Ethics, is to be based on the golden rule This will lead to careful inquiry as to the rights of other physicians to avoid unintentional trespass, even though a patient may consider that for him to summon a new attendant is *ipso facto* a discharge of the old The physician can not always consider it so When one makes an error or offends a confrère in the way described, one should frankly explain and apologize, and even give up the case if the patient elects because the loss of a patient from one s clientele is a small matter compared with the loss of professional fellowship and good feeling toward a confrère For the same reason the physician represented in this case by Dr A should exercise charity and heartily accept an apology when offered If he knows his friend to be an honorable physician, let him think that he lost the case through his own inferiority rather than through any dishonorable action on the part of his friend

THE LIMITATIONS OF GRATUITOUS SERVICES TO PHYSICIANS DEPENDANTS

———, ———, Aug 5, 1904

To the Editor —Will you kindly reply to the following query through The Journal? A student, the son of a homeopathic physician of a distant town and a complete stranger to me, contracted chancroids while attending school some distance from here He consulted me and was treated for several weeks. The severity of the case and the development of chancroidal bubo necessitated several time-consuming visits and surgical treatment. An anxious impersonal letter to the attending physician was replied to by me, stating the boy s exact condition, and that he would be carefully looked after No reply to this was received The young man was emphatic in his statements that all would be paid for, and, indeed, a small part was paid The bill was sent to him several times, and several months ago to the father, without response Now, what is the proper and respectful course for me to pursue? Surely no self respecting physician would expect another to do that kind of business for his erring son for nothing **Y**

Answer —The Principles of Ethics advise all physicians to render gratuitous service to any other 'practicing physician and his immediate family dependants In addition, it is suggested that an obligation lies on a physician in comfortable circumstances to recompense a colleague for professional service requiring sacrifice of considerable time In the case submitted, it is perfectly clear that the homeopathic physician is under real obligation to our correspondent and should be ready to recompense him in suitable amount —something less than ordinary charge in similar cases in that locality As to the proper course for our correspondent now to pursue, we can hardly advise that is so largely a matter of personal taste and inclination, and of opportunity Certainly it would not quite be wise to risk loss of prestige by publicly pressing such a claim, however aggravated the circumstances might be

SLOW PULSE IN TYPHOID

Edmond, Okla , July 27, 1904

To the Editor —Will you please explain the cause of slow pulse frequently found in typhoid fever? I have seen three or four cases during the last year with pulse ranging from 40 to 70 or 80, with a temperature of 101 to 103 Text books speak of the slow pulse but do not give its cause Do you suppose the typhoid toxin influences the pneumogastric nerve to the production of this condition?

T H Flesher M D

Answer.—Your observation of the slow pulse in typhoid fever is as you say a confirmation of the statement made in many text books But it is well to emphasize the value of the slow pulse in spite of high fever because in many books no mention of the fact is made, and too often the practitioner overlooks what is really a valuable help in the matter of diagnosis and prognosis As is well known, too the pulse of the *convalescent* typhoid is apt to be slow While this slow pulse is probably commoner after typhoid than after other febrile diseases it is seen after other infections and is an example of the post febrile bradycardia, or bradycardia of convalescence of Huchard and others The explanation of this phenomenon is largely a matter of speculation It may be as suggested, due to an involvement of the vagus nerve or its center, but it is more likely we think due to the action of the toxin on the heart muscle itself Many of the so called neurotic affections of the heart are in reality myocardial in origin and while the influence of the pneumogastric and of the intrinsic cardiac nerve fibers and ganglia can not be excluded one would feel inclined to look on the bradycardia as in large measure due to the effect of the typhoid infection on the heart itself That the heart muscle is affected in typhoid sharing in the acute parenchymatous degeneration of the viscera is well known and cardiac weakness and instability of its muscular power is often shown during convalescence when a patient whose pulse while in bed was perhaps only 50 or 60 has on first getting up a pulse of 100 or 120 In all this question there is an unknown element that is not explained and that is why the poison of typhoid generally causes a slow pulse while that of some other disease e g scarlet fever causes a rapid pulse We may speak of a selective action of these toxins as we do of drugs, and of their specific effect yet there is still left much that is not quite clear

REMOVAL OF SUPERFLUOUS HAIR

——, Ga., July 22 1904

To the Editor —Is there a harmless prescription or means for the removal of superfluous hair—for instance under the arms, or on the upper lip of a woman" S

Answer —Permanent removal of moderate hair growth on women s faces can be effected by electrolysis The operation is permanent in its effects but as each hair must be treated individually it is only practicable in cases in which the hairs are coarse and not too numerous The object of the electrolytic operation is to destroy the papilla and lower part of the follicle. For this purpose are required a galvanic battery of 10 to 30 cells an extremely fine needle needle holder an electrode a rheostat a milliamperemeter and the ordinary cells The strength of current required is from ½ to 1½ milliamperes The operation should be conducted with strict aseptic precautions The *x* rays have also been used in this class of cases, but with unsatisfactory results. One of the best depilatories (as suggested by Duhring) consists of from 2 to 4 drams of barium sulphid with enough zinc oxid and starch to make an ounce. The sulphid should be well and freshly made and kept tightly corked otherwise its action is unsatisfactory At the time of application sufficient water is added to make a paste which is thickly spread over the part and allowed to remain for from one to two minutes and then scraped off and a soothing ointment or dusting powder applied The application is repeated every week or two or as soon as the hair has reappeared

PHYSICIANS CARDS IN NEWSPAPERS

—— Ill. July 21 1904

To the Editor —Would the following card be unethical in a newspaper in a small town where one is beginning a practice?

Office Hours
8 to 10 a. m 1 to 3 p m 6 30 to 7 30 p m
JOHN R. DOE
Physician and Surgeon
Corner of Vine and Cherry streets Corn Ill
Special attention given to microscopic and chemical analysis
W

Answer.—The question raised is one of expediency rather than of ethics. Publishing a simple professional card giving name address and office hours is permissible though in most parts of the country it is avoided as a matter of taste Specifically the card submitted appears rather pointless The general public does not go to a physician for microscopic and chemical analysis. In many places a young physician can pick up a little money doing this work for other and busier physicians. In seeking that patronage, however one should call directly on the other physicians and solicit their favor as they will not respond to a newspaper card If however a physician advertises in the way mentioned with the idea of impressing the public with his superior methods of diagnosis etc., the matter becomes objectionable

—— Iowa Aug 4 1904

To the Editor —When a physician puts his professional card in a daily or weekly paper would there be any objection to his embodying in that card his place of graduation and hospital connections? The point came to my attention the other day and I know that many physicians in good standing do so H

Answer.—While there is no rule against inserting college and hospital connections in a professional card published in a newspaper there is, nevertheless a very strong feeling in the profession that the inclusion of such data constitutes objectionable advertising The man who thus parades his attainments may not in some places be ostracised professionally but he certainly in most localities would be running very great risk of attracting strong professional disfavor Our advice certainly is that it would be wiser to avoid such a practice

DRY HOT AIR APPARATUS

Burr Oak Ind July 21 1904

To the Editor —Can you, or any of the medical fraternity tell us how much value there is in the dry hot air apparatus that is being so extensively advertised at the present time? Is there any good reliable book on the subject? If so what? Literature seems very deficient along this line, and while a great deal of it seems to appeal to reason, we would like to know what is the prevalent opinion regarding it. E W Reeves M D

Answer.—The dry hot air apparatus has a distinct field of usefulness in many of the chronic joint affections particularly those of a so-called rheumatic nature. The cases should be selected with care. Arthritis deformans is reported as being particularly benefited. A number of reliable articles have appeared from time to time in the literature. (For example, see The Journal July 4, 1903 p 60 ¶146) A good work on the subject is that by Skinner (price $2) obtainable through any large book firm

Marriages.

Ray Ash, M.D , to Miss Gail Arnold, both of Ashland, Ohio, July 26

Charles K Clarke, M.D , to Miss Teresa Gallagher, both of Kingston, Ont

Gerald B Webb, M D , to Miss Varina Davis Hayes, both of Colorado Springs, Colo

Harry Wayble, M D , Cincinnati, to Miss Anna Brothers of Newport, Ky , July 25

J E Schein, M.D , to Miss Laura M Phillipson, both of Oshkosh, Wis , July 27

Eugene H Bullock, M.D , to Miss Beulah De Vorss, both of St Joseph, Mo , July 25

Louis S Walton, M.D , to Miss Angeline McCray, both of Pittsburg, Pa , August 2

Clayton B Conwell, M.D , Cincinnati, to Miss Sarah W Jones of Riverside, Ohio

Francis E Shine, M D , Bisbee, Ariz , to Miss Barker of Toronto, Ont , August 2

Robert M Rankin, M D , Covington, Ky , to Miss Delia Johnson of Barboursville, Ky , July 24

J Samuel Shaffer, M D , to Miss Christobel Ort, both of Montgomery, W Va., August 2

Isidor Clarence Smullyan, M.D , to Miss Sarah Wilensky, both of Atlanta, Ga., August 2

Arthur Field Lindley, M.D , New York City, to Miss Elinor Levering, at Baltimore, July 30, 1904

Edward Logan Monroe, M.D , to Miss Grace Cecilia Underhill, both of Jacksonville, Fla , August 3

Anton H Vorwerk, M D , Burlington, Iowa, to Miss Katherine Winkle of Bancroft, Iowa, July 27

Max G Schlapp, M D , New York City, to Mrs Grovene Vail Converse, in London, England, July 30

Chesley Lanier Carter, M.D , to Miss Mabel Moon, both of Chatham, Va , at Washington, D C , July 25

Julius M. Purnell, M D , acting assistant surgeon, U S Army, to Miss Edith Terry of Louisville, Ky , August 4

Deaths.

Edward H. Hill, M D Harvard University Medical School, Boston, 1867, founder of the Central Maine General Hospital Association, formerly president of the Maine Medical Association, for several years president of the Androscoggin County Medical Society, died at his home in Lewiston, July 17, after an illness of several years from spinal disease, aged 60

John Turnbull, M D Jefferson Medical College, Philadelphia, 1863, of Bellbrook, Ohio, assistant surgeon to the Sixty fifth Ohio Volunteer Infantry, and later surgeon to the One Hundred and Fifth Ohio Volunteer Infantry, died at St Elizabeth's Hospital, Xenia, Ohio, July 19, five days after an operation for the removal of gallstones, aged 64

John Cooper, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1857, surgeon in the Army, as a prisoner of war in New Orleans, and after his exchange, in connection with the Seventeenth Army Corps, died at his home in Buffalo, N Y , July 11, from paralysis, aged 71

William H Hanscom, M D College of Medicine and Surgery of the University of Minnesota, Minneapolis 1889, for 10 years medical inspector for the Department of Health of Minneapolis, died at his home in South Minneapolis, July 16, from dropsy, after an illness of five months, aged 37

James W Wilson, M D Jefferson Medical College, Philadelphia, 1837, some time president of the Sandusky County Medical Society, and a member of the Ohio State Medical Society, who retired from active practice in 1858, died at his home in Fremont, Ohio, July 21, aged 88

Charles Fletcher Sumner, M.D College of Physicians of the Western District of New York, Fairfield, 1840, twice a member of the General Assembly, medical examiner of Bolton, Conn , and for 62 years a practitioner of that place, died at his home, July 12, from pneumonia, aged 87

Ernest A Taylor, M.D Missouri Medical College, St Louis, 1865, surgeon to the Seventh Missouri Cavalry in the Civil War, for five terms coroner of Rena County, Kan , died at his home in Hutchinson, July 20, after a short illness, aged 70

John L Mitchell, M D College of Physicians and Surgeons in the City of New York, 1845 a member of the Jackson County (Mich) Medical Society for 25 years, died at his home in Jackson, July 10, after a prolonged illness, aged 81

Helen W Webster, M D New England Female Medical College, Boston, a nurse during the Civil War, for eight years resident physician at Vassar College, Poughkeepsie, N Y, died at her home in New Bedford, Mass, July 19, aged 67

D F McCrimmon, M D Atlanta (Ga) Medical College of Rochelle, Ga, formerly representative from Wilcox County in the state legislature, died at the State Sanitarium, Milledgeville, July 15, after an illness of several months

Henry D Green, M D Medical Department of the University of the South, Sewanee, Tenn, 1900, of Atlanta, Ga, was struck by a car near the World's Fair, St Louis, July 29, and died a few minutes later, aged 25

Isidor H Jacob, M D University of Würzburg, Germany, 1898, of New York City, one of the promoters of the Brooklyn Jewish Hospital, died in the German Hospital, New York City, July 18, after a prolonged illness

Columbus N Warren, M D Starling Medical College, Columbus, Ohio, 1889, of Harrietsville, Ohio, died suddenly while making a professional call near that place, from angina pectoris, July 26, aged 38

Otis H Johnson, M D Harvard University Medical School, Boston, 1866, of Haverhill, Mass, died at the Hale Hospital in that city, July 16, from diabetic gangrene, after amputation of the right leg, aged 63

Gresham P Williams, M D Hospital College of Medicine, Louisville, Ky, 1891, Medical College of Ohio, Cincinnati, 1867, died at his home in Huntingburg, Ind, July 12, after a short illness, aged 60

Robert Macdonald Kippen, M D College of Physicians and Surgeons of Ontario, Toronto, 1900, died recently and was buried from the residence of his father in London, Ont, July 18

A Clarence Bartlett, M D Medical College of Ohio, Cincinnati, 1880, died at his home in New Castle, Ind, July 10, from cancer of the intestines after an illness of two years, aged 47

State Boards of Registration.

Other Reports—This issue of The Journal has room for but a few reports of state boards Similar reports appear from week to week In the last issue, August 6, reports were given from the states of Delaware, Illinois, Massachusetts, Michigan, Minnesota, North Dakota, Ohio, South Carolina and Texas The last mentioned report included the 125 questions asked on 13 subjects

Rhode Island July Report—Dr G T Swartz, secretary of the Rhode Island State Board of Health, reports written examination held at Providence, July 7 and 8, 1904 The number of subjects examined in was 7, total questions asked, 70, and percentage required to pass, 75 The total number examined was 28, of whom 25 passed and 3 failed The following colleges were represented

PASSED

College	Year Grad	Per Cent
Baltimore Medical College	(1904)	83 8 79 3
Boston University Medical School	(1904)	80 1 82 0
College of Phys and Surgs Baltimore	(1904)	87 4 85, 84 3 86 5
College of Phys and Surgs Boston	(1904)	75 * 79 1
College of Phys and Surgs New York	(1904)	90 4 88 9
Harvard University Medical School	(1902) 90, (1903) 85 3, (1904)	85 9 83 2
Jefferson Medical College	(1904)	78 6 83 86 4 82 7
Tufts College Medical School	(1904)	77 4, 77 0
University of Maryland	(1904)	89 1
University Medical College New York	(1895)	87 2
Yale University Medical School	(1902)	85 2

FAILED

College	Year Grad	Per Cent
Baltimore University Medical School	(1904)	60 4
Georgetown University	(1889)	62 0
Maryland Medical College	(1904)	65 9

*Second examination

New Mexico June Report—Dr B D Black, secretary of the New Mexico Board of Health, reports the written examination held at Santa Fe, June 6, 1904 The number of subjects examined in was 7, total questions asked 59, and percentage required to pass, 65 per cent The total number examined was 9, of whom 7 passed and 2 failed The following colleges were represented

PASSED

College	Year Grad	Per Cent
Detroit College of Medicine	(1897)	65 4
Physicians and Surgeons Keokuk, Iowa	(1896)	81 0
Birmingham Medical College	(1898)	95 5
Med Dept. Fort Worth University	(1898)	72 5
Kentucky University	(1904)	79 5
Colorado University	(1899)	72 8
American Medical Missionary College	(1903)	84 0

FAILED

College	Year Grad	Per Cent
National Medical University, Chicago	(1903)	62.1
Vanderbilt University	(1890)	61 4

Twenty candidates were licensed by registration of diplomas from colleges in good standing and two were rejected for unprofessional conduct

Maine July Report—Dr A K P Meserve, secretary of the Maine Board of Registration of Medicine, reports the oral and written examination held at Portland, July 12 and 13, 1904 The number of subjects examined in was 10, total questions asked, 100, and average percentage required to pass, 75, and not below 60 in any one branch The total number examined was 49, of whom 41 passed and 8 failed The following colleges were represented

PASSED

College	Year Grad	Per Cent
Baltimore Medical College	(1904)	90 8
Baltimore Univ School of Med (1890) 77.3,	(1904)	89 3
Boston Univ School of Med	(1904)	88 0, 83 0
Coll of Phys and Surgs Boston (1904) 85 3 88 3,	(1897)	77 8
Hahnemann Med Coll Hospital, Philadelphia	(1904)	87 4
Harvard Medical School (1896) 83 8, (1901) 91 4 (1902) 88 7, (1903) 83 5		
Johns Hopkins Medical School	(1904)	96 3
Laval University Montreal	(1904)	82 0
Maryland Medical College	(1904)	82 1 83 0
Medical School of Maine (1890) 78 (1904) the grade of 75 2 was reached by one, 77 by one 79 by two 81 by two 82 by two 83 by one 86 by one 87 by two, 88 1 by one 89 3 by one, 90 7 by one 92 7 by one		
Syracuse Medical College	(1904)	84 8
Tufts College Medical School (1903) 88 7	(1902)	80 0
University of Pennsylvania	(1888)	87 8
University of Vermont	(1904)	88 5, 86 7, 86 7

FAILED

College of Phys and Surgs Boston (1904) 81 5 (56 in mat. med)
College of Phys and Surgs, Baltimore (1904) 80 8 (56 in path) (1903) 74 1
Medical School of Maine, (1904) 81 8 (58 5 in path) 73 5, 76 8 (50 in obstet), 72 5 67 5

The average of the 16 representatives of the Medical School of Maine who passed was 83 7, of the total 21, 81 5

Nebraska June Report—Dr G H Brash, secretary of the Nebraska State Board of Health, reports the written examination held at Omaha, June 1 and 2, 1904 The number of subjects examined in was 8, the total questions asked, 80, and the percentage required to pass, 75 The number examined was 63, of whom 61 passed and 2 failed The following colleges were represented

PASSED

College	Year Grad.	Per Cent.
Lincoln Medical College	(1904)	78 4 79 2 82 6
College of Physicians and Surgeons Chicago	(1904)	87 6, 90 8
Hering Medical College Chicago	(1904)	76 2
Medico-Chirurgical College Philadelphia	(1903)	77 6
Central Medical College St Joseph, Mo	(1904)	83 7
Ensworth Medical College	(1904)	78 1
Creighton Medical College (1902) 84 8 (1904) the grade of 75 was reached by one 78 by two, 79 by two 80 by one, 81 by three 82 by two 83 by three 86 by two, 87 by four, 88 by two 91 by one		
Omaha Medical College	(1904)	90 7
Medical Department University of Nebraska (1904) the grade of 76 was reached by three 78 by two, 79 by one, 81 by two, 82 by one, 83 by one, 84 by one 85 by two 87 by two, 88 by six, 89 by two, 90 by two, 91 by one, 92 by one		

FAILED

College	Year Grad.	Per Cent.
Creighton Medical College	(1900)	2 1
Omaha Medical College	(1901)	71 5

The general average for all representatives of Creighton Medical College who passed was 83 1, of the University of Nebraska, 84 7

Association News.

NEW MEMBERS

List of new members for the month of July, 1904

ARKANSAS

Worthington J A. Green Forest.
Rhine, T E, Thornton

CALIFORNIA.

Blumer Geo, San Francisco
Crothers W H, San Francisco
Weeks Alanson San Francisco
Bruguiere Peder Sather, San Francisco
Rhinehard Jas F Oakland
Soothill John H Anderson
Bramhall, Robt N Fair Oaks
Knowlton J J San Luis Obispo
English, Charles F, Sonora.
Flemming B F, San Francisco
Franklin, W S, San Francisco

COLORADO

Abbott, Ursa S, Grand Junction.
Arnold Clarence R Colorado Springs

CONNECTICUT

Chester Thos. W, Hartford
Beard Theo E New Haven
Sherrill Geo, Stamford
White Robt. C Willimantic
Smith N P Norwich
Staub Geo E New Milford
Maloney D J, Waterbury
Hammond Henry L, Killingly

GEORGIA

Warfield, Luis M, Savannah
Bloomfield, Jas C, Athens

IDAHO

Brundage M, Shelley

ILLINOIS

Applewhite, L D East St Louis.
McNeill Samuel J, Chicago
Fisher Frank C, Joliet
Ramsey, Jas W Aledo
Fuller Spencer S, Paxton
Gaston M Adelaide Cerro Gordo
Grayson Oscar J, Granite
Ward, S R, Richmond
Wall A S Champaign.
Kober A F McConnell
Robbins, Wilfred D Albany
Elliott Elihu N Chicago
Voigt L G Freeport
Buckmaster F Altamont

INDIAN TERRITORY

Plunkett, Benj J Duncan
Batson J D Marietta
Tralle, Geo M Purcell

INDIANA

Lukenbill Orestes C Indianapolis
Newcomb John Ray Indianapolis.
Lamberson Harry M Connersville
Perry C H Lewis Creek
Wyatt A. R La Grange.
Eby Lorenzo D Plymouth
Wishard E. E. Noblesville
Kalbfleisch A H Peru
Kimmel A J Hudson

IOWA

Anderson Louis N Cedar Falls
Rudolf, F Eugene Davenport
Gingles W W Castana.
Skinner F S Marion
Kueny Chas. F Le Mars
Letourneau, P H Waukon
Mirick Willis A Monticello
Gorman V C Anamosa.
Hubbard Chester W Atkins
Renshaw L L Monona
Young J W West Grove
Harris C E Grinnell

KANSAS

Ikel R L Leavenworth
Furst, Oliver J Peabody
Mitchell Paul S Iola

KENTUCKY

Lewis H H., Salt Lick
Gholson Wm E Kirbyton.
Bushong Perry W Summer Shade
Keller David H. Lexington
South, Lilian H Bowling Green
Orsburn H K. Owensboro

LOUISIANA.

Otto Henry J New Orleans
White Stuart L. Ruston

MARYLAND

Mitchell Chas W Baltimore
Lockard G Carroll Baltimore
Leutcher John A. Baltimore
Thiede Gustav A. Baltimore.
Hynson, Henry P Baltimore
France Joseph I Baltimore

MASSACHUSETTS

Wadsworth Richard G Boston
Kennedy C F J Springfield
Smith Frank H Hadley
Greenough Clara M., Greenfield

MEXICO

Common Ernest L. Minaca Chihuahua

MICHIGAN

Locher H E, Grand Rapids.
Henry J G Detroit
Dibble Wealthy Saginaw
Newcomb Mary E Blissfield
Kee, David N Gladstone
Hebert, I Iron Mountain
Strangways W F Traverse City
Yonkers F Woodville.
Love Frank S West Branch

MINNESOTA.

Armstrong Louis W Breckenridge.
Bratrud, T Warren

MISSISSIPPI

Jones Geo Pierce Lula

MISSOURI

Murphy R Brent, St. Louis
Garne R. L Pollock.
Helton Jas W Green City
Kelly S G Sedalia

MONTANA.

Turner Christopher Butte
Cole Chas K Helena
Horsky Rudolph Helena
Barbour, Geo H Helena

NEBRASKA

Burkard Adrian F, Omaha
Spear Geo E, Lincoln
Wilmoth William L., Superior

NEW HAMPSHIRE

Sumner Arthur F, Concord
Osterhout J J, Marlow

NEW JERSEY

Wherry E G, Newark

NEW YORK

Howe Lucien Buffalo
Sell E. H M New York City
Gow Frank F Schuylerville
Palmer Floyd, Fishkill on Hudson
Rich F S Kennedy
Cooper Wm C Troy

OHIO

Jackson Thos W Akron
Kahler J Frank Canton
Mithoefer Wm Cincinnati
Fee Frank E Cincinnati
Minor H C, Toronto
Brattain G M Antwerp
Shane Gustav A, Waynesburg
Holmes Ralph W Gallipolis
Ery John Bugby Defiance
Williams, Berthold A College Hill
Elder John M Mineral Ridge.

OREGON

Cottel, Willis I Portland

PENNSYLVANIA

Bridenbaugh Chas S Altoona.
Watson Chas. M Allegheny
Osterloh Chas T Allegheny
England Joseph W Philadelphia
Finck Edward B, Philadelphia.
Knowles Geo A Philadelphia
Goss Chas Philadelphia
Burns Wm A. Philadelphia
Cassidy Paul B Philadelphia
Wilbert M I Philadelphia
Conard T D Philadelphia
Jamison Hugh D Pittsburg
Anderson Clyde O Pittsburg
Pool Stewart N Pittsburg
Charles Wm. S Pittsburg
Kellogg Fred'k S Pittsburg
Barker Olin G A Pittsburg
Born Chas. E. Johnstown
Stern Jac C, York
Smith Chas R Tioga
Graff Matthew A Sewickley
Jennings Samuel D Sewickley
Phillips John W Troy
Weddell F P Scottdale
Laverty Witt C Middletown
Beswick Geo L Wilmerding
Brooks Macy Philadelphia
Rosenberger Randle C Philadelphia

RHODE ISLAND

Sanford, A C Newport.

SOUTH DAKOTA

Riggs Theo F Oahe
Bacon Ralph F Garden City
Crawford, J Harry Castlewood
Adams Geo S Yankton
Dustin John F Pukwana

TEXAS

Wehrle, Gottlieb El Paso
Barrell C C Houston.
McIntosh John A San Antonio
Rogers Madison W Alexander
Mendenhall Jas N Plano
Reed, Guy H Beaumont
Sanders D I Edom
Stevens G W Willis
Powell W P Willis
McDaniel H A Bonham

UTAH

Hazel Thos Harold Salt Lake City

WEST VIRGINIA

Davis, Gilman R. Stone Cliff
Mankin J W Thurmond

WISCONSIN

Teschan R C Milwaukee
Laidlow W R. Milwaukee.
Fellman, Geo H Milwaukee.
Hall C H Madison
De Lap R H Richland Center
Cleary R L, Edgerton
Jacobs E C Durand.
Hooper E S, Darlington.
Larsen G A Blanchardville
Banks, Wm H Roberts

Medical Organization.

Georgia

Sumter County Medical Society —This society was organized at Americus, July 27, with an initial membership of 22, and the following officers Dr F A Thomas, Americus, president, and Dr Frank L Cato, Jr, De Soto, secretary

Illinois.

Piatt County Medical Society —Under this title the physicians of Piatt County have recently organized

Illinois Fifth District Medical Society —At the one hundred and tenth quarterly meeting of the Brainard District Medical Society, held in Bloomington, Ill, July 28, Councilor Dr J Whitefield, South Bloomington, of the Fifth District, made an address on medical organization, and presented the standard plan The society, by vote, re organized in accordance with the plan By the new districting, Morgan and Cass counties are transferred from the Fifth to the Sixth District

Michigan.

Muskegon County Medical Society —This society, whose preliminary meeting for organization was reported in The Journal of July 30, page, 344, met July 15, perfected its organization on the standard plan, and elected the following officers Dr George S Williams, president, Dr Sigmund Block, vice president, Dr Emory L Niskern, secretary, and Dr Jacob, Oosting, treasurer, all of Muskegon

Upper Peninsula Medical Society of the Twelfth District —At the tenth annual meeting of the Upper Peninsula Medical Society, held in Marquette, July 21 and 22, the society was reorganized on the standard plan, and the following officers were elected Dr Edward H. Flynn, Marquette, president, Dr Elmer D Gardner, Hancock, vice president, and Dr S Edwin Cruse, Iron Mountain, secretary and treasurer The next meeting will be held at Hancock

Missouri.

Bates County Medical Society —This society was organized in Butler, July 1, by Dr M P Overholzer, Harrisonville, with the following officers President, Dr Alva E Lyle, Butler, vice president, Dr Edward G Zey, Butler, and secretary and treasurer, Dr Edward N Chastain, Rich Hill

New Jersey

Italian American Medical Society of Essex County —On July 28 the Italian physicians of Essex County effected an organization with the following temporary officers Dr Joseph M. Malatesta, Newark, president, and Dr C C Berardinelli, secretary

Ohio

Mahoning County Medical Society —About 20 physicians of the county met at Youngstown, July 19, and, with the aid of Dr T Clark Miller, Massillon, councilor for the Sixth District, reorganized this society on the standard plan Election of officers was deferred until the January meeting

South Carolina.

Edgefield County Medical Association —This association was recently organized for Edgefield County with the following officers President, Dr J Hammond Carmichael, Pleasant Lane, vice president, Dr J M. Rushton, Johnston, secretary, Dr J G Edwards, and treasurer, Dr J N Crofton, Colliers

Texas.

South Texas Medical Association —At the semi annual meeting held in Houston, June 22 and 23, the following resolution, offered by Dr Walter Shropshire, Yoakum, was adopted on motion of Dr Robert W Knox, Houston

Whereas The successful organization of the whole medical profession of Texas as contemplated by our state association and is now being prosecuted, is to some extent handicapped by the indiscriminate membership of the large district medical associations, be it

Resolved That the membership of the South Texas Medical Association be restricted to members of societies that are chartered by and are branches of the Texas State Association. Further that so soon as the state association so directs, this association will become one of its district associations to represent it in the South Texas or Ninth Councilor District, according to the plan of recent organization of the state medical association.

The following officers were then elected Dr John T Moore, Galveston, president, Dr Sofie Herzog, Brazoria, vice-president, and Dr Edward J Hamilton, Houston, secretary and treasurer

MEDICAL SCHOOLS OF THE UNITED STATES

Below is given a brief description of every college in the United States that is legally chartered to confer the degree of doctor of medicine, and whose diploma is recognized by at least one state licensing board The list includes the sectarian as well as the regular colleges, as their graduates are physicians in the eyes of the law The information given is, as a rule, obtained from the catalogues and has been submitted to the dean of each school for his inspection and approval Colleges which belong to the American or the Southern Medical College Association or other organization of colleges have requirements for admission of students according to the rules of these associations, unless their requirements are higher, in which case a statement is made to that effect Extracts from these rules are given at the close of the list of colleges

ALABAMA

Alabama, population 1,828,697, has two medical colleges, the Medical College of Alabama and the Birmingham Medical College, located in Mobile and in Birmingham The population of each city is over 38,000 and board and room may be obtained for from $12 to $20 per month

Mobile.

Medical College of Alabama —This is the Medical Department of the University of Alabama organized in 1859 The City Hospital furnishes free clinical material The faculty consists of 9 professors and 12 lecturers 21 in all It is well equipped with building laboratories dispensary etc It is a member of the Southern Medical College Association The course of study covers four years of six months each The total fees for each of the first three years is $100 for the fourth year $125 The Dean is Dr George E Ketchum Total registration 1903 4 107, graduates, 35 The thirty ninth session will begin Oct 7, 1904, and will close April 1, 1905

Birmingham

Birmingham Medical College —This school was incorporated in 1894 and is situated in Birmingham a manufacturing town of 38 415 The clinical advantages are good The Hillman St Vincent s Pratt and County hospitals are accessible to the students. The laboratories are well equipped There are 19 professors and 10 assistants total 29 The school is a member of the Southern Medical College Association The course of instruction embraces four separate sessions of six months each The fees are $75 for each of the first three years and $105 for the fourth The Dean Dr B L Wyman Registration 1903 4 104, graduates 5 Next session opens Oct 3 1904, and closes April 1 1905

ARKANSAS

Arkansas, population 1,311,564, has one medical college, located in Little Rock Board and lodging costs from $13 to $18 per month

Little Rock.

University of Arkansas Medical Department —This college is located at Little Rock population about 60 000 It was organized in 1879 as the Arkansas Industrial University Medical Department It is a charter member of the Association of American Medical Colleges Hospital facilities are furnished by Logan H Roots Memorial Hospital St Vincent's Infirmary and Pulaski County Hospital the latter having a capacity of 200 beds The teaching body consists of 15 professors and 20 lecturers and assistants total 35 Dr F L French Little Rock is Secretary The fees are Matriculation $5 paid but once annual fees $60, and graduation $25 Total number of students at last session, 215, graduates 19 The next course of lectures begins Oct 17 1904, and ends April 15, 1905

CALIFORNIA

California, population 1,485,053, has eight medical colleges Five are located in San Francisco, a city of about 400 000 inhabitants They are Cooper Medical College, Medical Department of the University of California, California Medical College, Hahnemann Medical College of the Pacific, and the College of Physicians and Surgeons The clinical facilities of San Francisco are good, board and lodging can be obtained for from $20 to $30 a month The College of Medicine of the University of Southern California is situated in Los Angeles, population 102,479 Board and lodging can be obtained in that city for $4 a week and upward The Oakland College of Medicine and Surgery is in Oakland, a suburb of San Francisco

Oakland

Oakland College of Medicine and Surgery —The third session of this new school will begin Sept 15 1904 and end May 15, 1905 The Registrar is Dr Edward N Ewer The faculty numbers 23 Tuition is about $115 yearly There were eight students last session divided between the first and second year classes During this session there will be three classes only no students being admitted to fourth year studies

San Francisco

Cooper Medical College —This school was organized in 1858 though its present name was not adopted until 1882 The faculty consists of 17 professors and 44 lecturers instructors, etc, 61 in all Lane Hospital adjoining the college the City and County Hospital containing 464 beds and the college dispensary furnish clinical material The requirements for admission are a certificate showing that applicant has passed the regular examination for admission to the University of California or its equivalent or graduation from an accredited high school or academy or its equivalent. The college itself does not hold entrance examinations The college building supplies large laboratory and lecture room facilities The curriculum covers a graded course of four years of eight and a half months each Fees Matriculation $5 course fee for each year $150 laboratory fee for each year $10 breakage deposit each year, $10 graduation fee $25, no other charges The Dean is Dr Henry Gibbons Jr Total registration for 1903-4 was 193 graduates 41 The next session opens Aug 15, 1904 and will close May 9, 1905

Medical Department University of California —This department of the State University was organized in 1872 and has a faculty composed of 20 professors 50 associates and assistants a total of 70 The City and County Hospital which admits students of this school not only to the clinics proper but also to its wards for study and the college dispensary furnish good clinical material The course covers graded work for four years of nine months each This school is a member of the Association of American Medical Colleges. In 1905 two full college years work will be required of al applicants for admission The fees are Matriculation, $5, tuition $150 each year laboratory fees extra The Dean is Dr Arnold A D Ancona Total registration for 1903 4 was 113 graduates, 27 The thirty second session opens Aug 15, 1904, and will close May 15, 1905

College of Physicians and Surgeons of San Francisco — This school was organized in 1896 and has a faculty of 22 professors and 24 associate professors and teachers a total of 46 The hospital facilities consist of the City and County Hospital the California General Hospital with 50 beds and St Winifred Hospital, with 50 beds The daily clinics at the new college building furnish abundant material of every description Applicants for matriculation must show an equal amount of work done or pass a satisfactory examination in English history and government geography physics mathematics and Latin grammar and translation The college building recently completed is well supplied with laboratories and lecture rooms This college now conducts a continuous course of medical instruction Each year is divided into four quarters of three months each, and known as the autumn winter, spring and summer quarters Students may enter at the beginning of any quarter Attendance on 12 quarters will be required and at least 45 months must elapse between the beginning of the first course and the time of graduation Fees $30 per quarter The Dean is Dr D A Hodghead Registration for 1903-4 was 124, of these 20 graduated in medicine The autumn quarter opens Sept. 1, 1904 and closes May, 1905

California Medical College —Eclectic This school was organized in 1878 Its faculty includes 18 professors and 17 lecturers and instructors a total of 35 The clinical material is supplied by the Buena Vista and City and County hospitals Applicants for admission not holding diploma or certificate are examined The course has been extended to cover four years of eight months each Total fees are about $110 for each of the first three years and $40 for the fourth year The Dean is Dr D Maclean Total registration for 1903 4 was 47 graduates, 8 The next session begins Oct, 3, 1904 and ends May 17 1905

Hahnemann Medical College of the Pacific —Homeopathic This school was organized in 1884 and has a faculty of 19 professors and 23 lecturers, instructors etc in all 42 The Pacific Homeopathic Polyclinic the Homeopathic Sanatorium the San Francisco Nursery for Homeless Children Marie Kip Orphanage accommodating, respectively 45 75 and 120 beds Fabiola Hospital and the City and County Hospital furnish the clinical material for study Matriculants must possess the equivalent of a high school education. One year after entrance is permitted in which the student may complete conditions in Latin The college is registered and accredited with New York State Regents The course includes four years of seven months each Total fees for the first year $155, and $100 for each of the other three years The Dean is Dr James W Ward Total registration for 1903 4 is 34 The twenty second session opened March 6 1904, and will close Oct 31 1904

Los Angeles

College of Medicine, University of Southern California.— This school was organized in 1895 and has a faculty of 27 professors and 12 instructors etc. 39 in all The County Hospital having 200 beds, and a college dispensary furnish clinical material Applicants for admission are required to pass an examination in English arithmetic, elementary algebra, physics and Latin equal to one year s work, unless they can show by certificate that they have covered that ground The building is amply provided with laboratories and lecture rooms and a new clinical laboratory erected in 1904 costing with equipment $20 000 A graded course covering four years of thirty two weeks each is offered The total fees for the first year are $145 second and third $150 each and $40 for the fourth year The Dean is Dr Walter Lindley Total registration for 1903 4 was 110 graduates 24 The next session opens Oct 15 1904 and closes May 15 1905

College of Physicians and Surgeons.—This school has just been organized and its first session will open Oct 6 1904 and close June 6 1905 The length of each course will be eight months The faculty numbers 57 in all 22 professors and 35 assistants. The Secretary is Dr Benjamin F Church Trust Bldg Los Angeles.

COLORADO

Colorado, with a population of 539,700, has three medical colleges. Two of these, Denver and Gross College of Medicine and Denver Homeopathic College, are in Denver, which has a population of about 175,000, the other, the Colorado School of Medicine, is at Boulder (population 6,150) The clinical facilities in Denver available to the two colleges are the Arapahoe County Hospital, which has a capacity of 300 beds, St Joseph's Hospital, with 300 beds, and St Luke's Hospital, with 75 beds The Public Library contains 10,000 volumes on medicine Board can be obtained in Denver for $5 a week and upward

Denver

The Denver and Gross College of Medicine.—This is the Medical Department of the University of Denver and was organized in 1902 by the union of the Gross Medical College (organized 1887) and the Denver College of Medicine (organized 1880) The clinical advantages are the college dispensary the Arapahoe County Hospital St. Lukes Hospital St Anthony s Hospital St Joseph s Hospital National Jewish Hospital for Consumptives Home for Dependent Children and the City Contagious Hospital and Mercy Sanitarium The faculty is made up of 38 professors 43 assistants and instructors a total of 81 Its location is central and the buildings are well arranged for laboratory dispensary and didactic work The course is graded and covers four years of eight months The college is a member of the Association of American Medical Colleges. Final examinations at the end of each year are held Fees for the first year are $115 For the second year $116 Third year $101 Fourth year $126 Total registration 1903-4 127 graduates 32 The twenty third session will begin Sept. 13 1904 and close May 18, 1905 The Dean is Dr S G Bonney

Denver Homeopathic College.—This college organized in 1894 beside clinical privileges in the hospital of the city and county of Denver has exclusive privileges for clinical work in the Denver Homeopathic Hospital the Haven and the Belle Lenox Nursery The faculty numbers 25 professors and 7 lecturers and instructors 32 in all The requirements for admission are. possession of a diploma from a literary college. university an academy a normal or high school a first grade teacher s certificate or a previous matriculation at some reputable literary or medical college The course of study consists of four years of seven months each monthly examinations are held in each subject. A five-year scholarship may be had for $300 payable in advance otherwise the tuition is $100 a year for the first. second and third years. Senior year $75 There is a matriculation fee of $5 payable once. The Dean is Dr James P Willard Total registration for 1903-4 was 29 the number of graduates 6 The eleventh session begins in September 1904 and will close April 1905

Boulder

Colorado School of Medicine.—This is the Medical Department of the University of Colorado and was opened in 1883 The University Hospital under the control of the state is equipped to accommodate 40 patients, and furnishes free clinical material Both hospital and dispensary clinics are offered and the sanatorium located at Boulder offers additional advantages in this line The faculty embraces 15 professors and 12 lecturers and assistants a total of 27 The laboratories are well equipped and commodious A separate building is devoted to the study of anatomy and another one is used for medical work exclusively A complete four-year course of study in a recognized high school or its equivalent is required for admission This school is a member of the Association of American Medical Colleges The work embraces a graded course of four years of nine months each The tuition is $50 per year there are no other fees. The Dean is Dr Luman M Giffin Total registration for 1903-4 was 53 graduates 17 The twenty third session begins Sept. 12 1904 and closes June 7, 1905

CONNECTICUT

Connecticut has a population of 908,420, and contains one medical college, located in New Haven, population 115,000 Board and lodging cost $4 50 and upward per week

New Haven

Yale Medical School.—This is the Department of Medicine of Yale University In 1810 a charter was granted for the establishment of this school and in 1813 it was organized as the Medical Institution of Yale College. In 1879 a new charter changed the name to the one now used and in 1884 the Connecticut Medical Society which from the granting of the first charter had taken an active part in its control surrendered its authority and the University authorities assumed full control The clinical advantages are embraced under the New Haven Hospital, which contains 175 beds and is the general hospital for New Haven the Springside Hospital which is connected with the city almshouse, and the State Hospital for the Insane, located in Middletown about twenty five miles distant, which with its 1 800 patients offers an opportunity for special instruction in insanity in addition to the clinics. Beside these the University has just completed a $100 000 building for the dispensary service which offers good material for clinical teaching The faculty embraces 13 professors, 5 lecturers 10 instructors and 19 assistants, a total of 47 The lecture rooms and laboratories are large and well equipped Matriculants are admitted without examination provided that they have received a degree in arts or sciences that they present certificates showing that they have successfully prosecuted the subjects of the examination at some college high school academy or preparatory school approved by the faculty or that they have passed matriculation examinations equivalent to those required at some approved professional school This school is a member of the Association of American Medical Colleges The course covers a four year graded curriculum eight months constituting a school year the first two years the fundamental branches are studied the third year is devoted to a systematic teaching of medicine surgery obstetrics and pharmacology and in the fourth year clinical work with medicine surgery and the specialties, is presented The fees are $150 each year In the first year there are additional fees amounting to $18 and in the second $8, and there is no graduation fee The Dean is Dr Herbert E Smith New Haven During the session of 1903-4 there were 140 matriculants and 23 graduates. The ninety second session opens Sept. 29 1904 and closes June 28, 1905

DISTRICT OF COLUMBIA

Washington, population 278,718, has three medical colleges Columbian University, Department of Medicine, Georgetown University School of Medicine, and Howard University Medical Department Washington offers to the student of medicine many advantages The Army Medical Museum, the Museum of Hygiene, the National Museum, the library in the Surgeon General's office, the Toner Medical Library and Museum of Hygiene, in all over 125,000 volumes on medicine, open to the medical student a most profitable field The clinical advantages offered by the various hospitals are good Owing to the many boarding houses and hotels, board and lodging can be had at extremely reasonable rates

Washington.

Columbian University Department of Medicine.—This school was organized in 1821 as the Department of Medicine of Columbian College which in 1873 became Columbian University In connection with the Department of Medicine is the University Hospital, under the immediate control of the faculty of medicine and established and maintained to afford clinical facilities for the students of the school Beside the University Hospital the Garfield Hospital the Children s Hospital the Central Dispensary and Emergency Hospital the Providence Hospital the Columbia Hospital the Episcopal Eye and Ear Hospital the U S Government Hospital for the Insane and the Lutheran Eye and Ear Infirmary afford additional opportunities and are utilized for clinical instruction under the supervision of those members of the faculty who are on the visiting staffs of these institutions Attendance on clinics is obligatory on junior and senior students. The faculty is composed of 30 professors and 35 demonstrators instructors and assistants. This school is a member of the Association of American Medical Colleges. The laboratories are modern and equipped with all the needed apparatus for thorough work and instruction Facilities are also provided for post graduate and research work The course of instruction is graded and extends through four years each scholastic year consisting of eight months Written and practical examinations are held during the term and written and oral in all subjects at the end of the school year The total fees for the first year are $132 for the second year $127 for the third year $112 and for the fourth year $122 A laboratory breakage deposit of $5 is required in the first and second years. The Dean is Dr W F R. Phillips, 1607 16th St. N W New and commodious buildings were erected and occupied in 1902 The total registration of students for the session of 1903-04 was 306 graduates 52 The eighty third session begins Sept. 29 1904 and closes May 20, 1905

School of Medicine Georgetown University.—This school organized in 1850 controls the Georgetown University Hospital which affords excellent facilities for clinical teaching and ward classes Clinics are also held for the benefit of the students in Providence Hospital containing 500 beds at the Government Hospital for the Insane, containing over 2 000 beds In the Children s Hospital the Central Dispensary Emergency Hospital and the Garfield Hospital Attendance on clinical instruction is obligatory in the third and fourth years The faculty contains 26 professors 27 instructors and assistants total 53 This school is a member of the Association of American Medical Colleges The building is conveniently located and contains spacious and well ventilated lecture rooms, laboratories and library the laboratories are equipped with the most approved instruments and appliances The complete course of study extends over four terms of eight months each Examinations are held at the end of each session The fees are $110 each year The Dean is Dr George M Kober 1600 T St. The registration for 1903 4 was 140 graduates. 32. The next term opens on Sept 29 1904 and ends May 31 1905

Howard University Medical Department.—This institution was organized in 1867 and in conformity with the spirit of the organic law of the University is open to all without regard to sex or race, who are qualified by good moral character proper age and suitable education. The removal of any racial distinction has been taken advantage of by colored students who compose a majority of those in attendance but a number of white students are also receiving instruction The Freedman s Hospital is a general hospital of 300 beds The faculty comprises 17 professors and 15 lecturers and assistants, 32 in all This college is a member of the Association of American Medical Colleges. Students are required to attend four courses of lectures in separate years of seven months each The fees of each session are $80 plus $2 per part for dissecting material and $10 for graduation Board can be had at the school dining hall for $9 a month and a room in the dormitory for $15 a term The Dean is Dr Robert Reyburn 2129 F St. Registration for 1903-4 was 155 graduates 38 The thirty seventh session begins Oct. 1 1904 and closes May 10 1905

GEORGIA

Georgia, population 2,216,331, has three medical colleges Medical College of Georgia, located in Augusta (population, 39,441), Atlanta College of Physicians and Surgeons, and Georgia College of Eclectic Medicine and Surgery, both in Atlanta (a manufacturing city of 89,872 population) Board and lodging may be obtained for from $3 to $5 per week

Augusta

MEDICAL DEPARTMENT, UNIVERSITY OF GEORGIA —This school was organized as a medical academy in 1829 and in 1873 was made the Medical Department of the University of Georgia. Its faculty includes 12 professors and 13 assistants 25 in all The course is four years of six months each Applicants for admission must by examination certificate or diploma show that they possess educational qualifications equal to those required for second grade teachers in public schools If they are deficient on examination however they are admitted and they may remove the conditions any time before they appear for graduation The City Hospital with 130 beds Lamar Hospital with 80 beds the Polyclinic and the Hospital for Contagious Diseases supply clinical material Fees for the first two years are $75 each third year $100 and $130 for the last year The Dean is Dr DeSaussure Ford Total enrolment for 1903 4 was 115 graduates 26 The seventy third session opens Oct 1 1904, and closes April 1, 1905

Atlanta.

GEORGIA COLLEGE OF ECLECTIC MEDICINE AND SURGERY —This school was organized in 1839 and has a faculty of 16 The college dispensary Grady Hospital and Georgia Eclectic Hospital furnish clinical material Applicants for admission must adhere to the requirements established in the National Confederation of Eclectic Colleges of which this college is a member The curriculum covers four years of six months each The Proctor is Dr W M Durham 77½ Peachtree St Total number of students for 1903 4 was 54 graduates 17 The next session opens Oct. 4, 1904, and closes April 4, 1905

ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS —This school was formed in 1898 by the consolidation of the Atlanta Medical College organized in 1854 with the Southern Medical College, organized in 1879 It has a faculty of 13 professors and 30 assistants a total of 43 Clinical facilities are furnished by the Grady Hospital, which is the general hospital for Atlanta clinics are free to the graduating class First course students are required to 'give satisfactory evidence to the faculty of such educational qualifications as will be deemed necessary for the successful prosecution of their medical studies These requirements will be similar to those of other reputable medical colleges in the country ' The course of study covers four years of six months each and is graded The buildings are large and a new building for practical anatomy has been added Fees First and second years $75 each third and fourth $100 each The Dean is Dr W S Kendrick 71 Washington St Total registration of students for 1903 4 was 215 graduates 31 Next session begins Oct 6 1904 and closes April 1, 1905

ILLINOIS

Illinois, population 4,821,550, has 16 medical colleges Of these 15 are located in Chicago, a city of about 1,900 000 inhabitants, and are as follows Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, Chicago Homeopathic Medical College, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Harvey Medical College, Illinois Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University, American College of Medicine and Surgery, and Dearborn Medical College Room and board cost $3 a week and upward Lombard College Medical Department is located in Galesburg, a city of 19,407 inhabitants

Colleges in Illinois have to admit students in conformity with the minimum requirements of the Illinois State Board of Health, as follows "A diploma or certificate of graduation from a high school, or a certificate signed by a principal of a regularly organized high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course The matriculation examination shall not be conducted by any member of the faculty of the medical college The Illinois State Board of Health will require each applicant for a state certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the board" These conditions will govern all persons admitted to the freshman year on or after Jan 1, 1903

Chicago

RUSH MEDICAL COLLEGE.—This school was founded in 1837, organized in 1843, was the medical department of Lake Forest University from 1887 to 1898, and in the latter year became affiliated with the University of Chicago The faculty is composed of 55 professors, 158 associates instructors, etc a total of 213 Good clinical facilities are furnished by Cook County Hospital, caring for about 20 000 patients yearly Presbyterian Hospital with 250 beds, a college dispensary and an obstetric department. In addition to these extramural clinical courses are offered at the West Side Hebrew Dispensary, St. Luke's Hospital St. Anthony's Hospital, the Alexian Brothers' Hospital Illinois Charitable Eye and Ear Infirmary and Chicago Isolation Hospital Bedside instruction is given The requirements for admission are those of admission to the better universities or colleges, and in addition thereto, two years of college work This college work must have included thorough courses in college chemistry (both inorganic and organic) college physics, and biology all with laboratory work For the sessions of 1905 6 a reading knowledge of German and French will be required in addition to the above By the addition of a recently completed seven story building the facilities for clinical instruction are largely increased The laboratories and their equipment are unexcelled. The curriculum covers graded work for four years of three quarters each, a quarter being three months. A continuous session is held, but credit for more than three quarters can not be obtained in any calendar year A combined course for six years confers degrees of both science and medicine All freshmen and sophomore studies are given at the University of Chicago The total regular fees are $180 this year Students in continuous attendance i e three quarters in twelve months may complete their course by paying the fees in vogue when they first enter the college A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually The Deans are Dr Frank Billings 100 State St, and Dr John M Dodson 34 Washington St Total registration, 1903 4 was 1 033, graduates, 160 The fiscal year begins July 1, final examinations are held at the end of each year

COLLEGE OF PHYSICIANS AND SURGEONS —This school was organized in 1881 and in 1896 became the Medical Department of the University of Illinois. The faculty is composed of 39 professors, 105 assistants and instructors a total of 144 The West Side Hospital containing 125 beds Cook County Hospital and a college dispensary and maternity clinic supply most of the clinical material but under certain conditions students of this school are admitted to the following hospitals for clinical study Augustana, Baptist Chicago Woman's Samaritan Alexian Brothers' St Mary's and the Chicago Lying in This school is a member of the Association of American Medical Colleges A magnificent building has recently been added to the college and the laboratory amphitheater and lecture-room space and equipment are excellent. The collegiate year is divided into two terms the winter term of thirty four weeks and the summer term of twelve weeks of actual teaching Attendance on the winter term is required in order to secure credit for a year's work and attendance on four winter terms is required for graduation except for students who are admitted to advanced standing Attendance on the summer term is optional, and the work is supplementary to the work of the winter term Students may obtain credit for work done in certain branches, but attendance on this term does not apply on the required thirty two months attendance necessary for graduation The fees are $145 each for the first two years $130 for the third and $155 for the fourth year The Dean is Dr William F Quine 103 State St Total registration for 1903 4 was 697, graduates, 214 The fall term begins Oct 1, 1904

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—This school was organized in 1859 as the Medical Department of Lind University became independent as the Chicago Medical College in 1864 and in 1869 assumed its present relation as Medical Department of Northwestern University The faculty comprises 41 professors and 71 assistants and instructors in all 112 The newly completed Wesley Hospital with 225 beds Mercy Hospital containing 400 beds Provident Hospital 100 beds St Luke's 200 beds and a college free dispensary furnish opportunities for clinical study to students of this college exclusively Cook County the People's and the Chicago Lying in hospitals are also open to them for study Applicants for admission must by diploma certificate or examination, show possession of the educational acquirements required to enter the College of Liberal Arts of Northwestern University This school is a member of the Association of American Medical Colleges The laboratory and lecture-room facilities are ample and the equipment is good. The course of study covers graded work for four years of thirty six weeks each Optional summer laboratory and clinical courses are also given Final examinations are held at the end of each semester The fees for each year are $165 and a matriculation fee of $5 paid once is charged The Dean is Dr N S Davis Jr, 65 Randolph St The total registration for 1903 4 was 587, graduates 133 The next session opens Oct 4, 1904, and closes June 3 1905

HAHNEMANN MEDICAL COLLEGE —Homeopathic This was organized in 1855 and has a faculty of 70 Hahnemann Hospital and a college dispensary supply clinical material The requirements for admission are a high school diploma or its equivalent The course is four years of seven months each Fees Matriculation, paid once $5, each semester $50 and hospital tickets, $5 each for third and fourth years The Registrar is Dr W Henry Wilson Total registration 1903 4, 138, graduates 40 The next session begins Sept. 27, 1904

CHICAGO HOMEOPATHIC MEDICAL COLLEGE —This was organized in 1876 and has a faculty of 20 professors and 44 adjuncts, lecturers, etc a total of 64 The Chicago Homeopathic and Cook County hospitals together with a college dispensary, furnish clinical material Applicants for admission must have had a four year high school course or its equivalent as a minimum The course covers four years of eight months each Total fees are about $110 for each year The Dean is Dr W M. Stearns 87 Wabash Ave Total registration 1903 4, was 115, graduates, 37 The next session opens September, 1904, and ends May, 1905

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY —This school, organized in 1868, has a faculty of 32 professors and 5 assistants 37 in all The Bennett Cook County and Baptist hospitals and a college dispensary supply clinical facilities Matriculants must present a diploma or certificate or pass a satisfactory examination "in conformity with the minimum requirements of the

State Board of Health" The course covers four years of twenty six weeks each This school is a member of the National Confederation of Eclectic Medical Colleges Fees for each year are $100, with a matriculation fee paid once of $5 The Dean is Dr A L Clark, Elgin Ill Total registration 1003-4 was 115 graduates, 10 The thirty seventh session begins Sept. 27, 1904, and ends May 9 1905

American Medical Missionary College.—This school was organized in 1895 and has the primal object of educating men and women as missionary physicians The faculty numbers 25 The didactics and laboratory work covering the first two years, are carried on at Battle Creek Mich and the clinical studies in Chicago A hospital with 20 beds in connection with the college, together with a free college dispensary with an obstetric department supply material for practical work The college is a member of the Association of American Medical Colleges The course covers four years of nine months each Total fees are $125 for each of the four years. The Secretary is Dr E L. Eggleston Battle Creek, Mich. Total registration for 1903 4 was 58 graduates 21 The tenth session opens Sept 20 1904 and closes June 19 1905

Illinois Medical College.—This school organized in 1804 has a faculty of 31 professors and 20 assistants a total of 51 A college dispensary and Cook County Hospital are available for clinical study The requirements of admission include a high school diploma or its equivalent. The college is a member of the Association of American Medical Colleges. Attendance for seven months during each year is necessary for graduation Total fees are about $125 for each year The Dean is Dr B B Eads 103 State St Total registration for 1903 4 was 237 graduates 58 The next fall term begins Oct. 1 1904

Harvey Medical College —This is a night school organized in 1891 The lecture and laboratory work is all in the evening between the hours of 7 and 10 six days of the week and forty weeks of the year The clinical work hospital dispensary in practice and out practice are between the hours of 10 a m and 10 p m Attendance on 100 clinical hours yearly before 7 in the evening is obligatory beside attendance by the seniors on night obstetric cases and Saturday evening clinic at Cook County Hospital The faculty is composed of 42 professors 21 instructors and assistants total 63 The course covers four years of ten months each The total fees are each year $200 The Dean is Dr Frances Dickinson Total registration for 1903-4 was 230 graduates 18 The fourteenth session begins September 1904 and ends June 1905

College of Medicine and Surgery —Physio-Medical This school was organized in 1800 and has a faculty of 44 teachers A college dispensary supplies material for clinical work The course covers four years of seven months each Fees for the first second and third years. $100 each and $115 for the fourth The Secretary is Dr Florence Dressler 2203 Gladys Ave. Total registration for 1903-4 was 70 graduates 11 The next session begins September 1904 and ends May 1905

Hering Medical College.—Homeopathic. This school was organized in 1892 Dunham Medical College organized in 1895 was consolidated with this school in August 1902 The faculty comprises 28 professors and 16 associates lecturers etc in all 44 Hering College Hospital Baptist and Cook County hospitals supply clinical facilities The course covers four years of seven months each. The total fees for a full course are $300 if paid in advance, or $100 per year The Dean is Dr H C Allen 103 State St. Total registration for 1903-4 was 92 graduates 29 The thirteenth session begins Sept. 12 1904 and ends April 11 1905

Jenner Medical College.—This is a day and evening school organized in 1892 The faculty consists of 46 professors and 7 assistants, 53 in all Cook County Hospital and college dispensary supply clinical material The course covers four years of 40 weeks each and embraces laboratory didactic and clinical instruction The total fees each year are $100 with a $5 matriculation fee paid but once. The Registrar is Dr Shorman 163 Randolph St. Total enrolment for 1903-4 was 122 graduates 24 The next session begins Sept. 1, 1904 and will end June 30 1905

Dearborn Medical College.—This school was organized in 1903 with a faculty of 38 professors and 4 assistants a total of 42 The instruction which is given in the evening only extends over a period of four years of ten months each Cook County Hospital Samaritan Hospital and a college dispensary supply the clinical material. The total fees are $5 matriculation fee $110 tuition and $10 laboratory deposit. The Dean is Dr L Blake Baldwin the Secretary, Dr J L Wells Total registration for 1903 4 was 134 graduates 17 The next session begins Aug 29 1904 and ends June 24 1905

American College of Medicine and Surgery —Eclectic. This school was founded in 1901 and has a faculty of 65 The requirements for entrance are in accord with the rules of the State Board of Health The course is four years of eight months each American and Cook County hospitals supply clinical material The Secretary is Dr J D Robertson 103 State St. The annual fee is $100 matriculation fee is $5 a total fee for one year with board, room light and heat is $208 The enrolment 1903 4 was 264 graduates, 23 The next session begins Sept. 27 1904 and closes May 15 1905

National Medical University —This was organized in 1891 and its courses include instruction in the methods of all the so-called schools of practice, including osteopathy The faculty numbers 76 The requirements for entrance are in accordance with the requirements of the Illinois State Board of Health Each year is divided into four quarters of thirteen weeks each attendance on three quarters constituting one college year The fees are $100 per year The Registrar is Dr L D Rogers 533 Wells St. Total matriculants for 1903-4 were 284 graduates 20 The autumn quarter will begin Sept. 30, 1904

Galesburg

Lombard College Medical Courses —This school gives only the first year of the medical course, extending over eight months. It has a faculty of 12 The Dean is Dr T C Kimble Total registration, 1903-4 20 The next session begins Sept. 1 1904 and ends June 2 1905

INDIANA

Indiana, population 2,516,462, has six medical colleges Four are situated in Indianapolis, a city of 169,164 people The Central College of Physicians and Surgeons, Medical College of Indiana, the Eclectic Medical College and the Physio Medical College of Indiana The clinical facilities of Indianapolis are good, and board and lodging can be obtained from $3 a week and upward. The Fort Wayne College of Medicine is situated in Fort Wayne, a railroad and manufacturing town of 45,115 inhabitants Board and room can be obtained there at an average of $3 a week

Indianapolis

Central College of Physicians and Surgeons —This school was organized in 1879 and reorganized in 1901 The faculty numbers 23 professors and 28 lecturers and demonstrators, total 51 A new college building has been erected on the most up-to-date plans. Its floor space comprises 25 000 square feet, more than half of which is devoted to laboratory teaching The school gives instruction largely by laboratory and clinical methods Clinical facilities are furnished by a dispensary maintained by the college by the City Dispensary City Hospital St Vincent's Infirmary and the Central Hospital for the Insane Bedside clinics are given to sections of senior class daily at City Hospital This college was a charter member of the Association of American Medical Colleges The course is four years of seven months each. The Dean, Dr George D Kahlo the Secretary Dr John F Barnhill The fees are $75 for each year Total registration, 1903-4 was 182 graduates 21 The session for 1904 5 will open Sept. 20, 1904, and close April 20 1905

Medical College of Indiana —This is the Medical Department of the University of Indianapolis and was organized in 1869 The faculty embraces 30 professors 38 adjuncts, lecturers, etc. a total of 68 The City Hospital containing 200 beds Indianapolis Dispensary Central Hospital for the Insane with a capacity for 1 800 patients St Vincent's and the Maternity hospitals and a college dispensary provide clinica facilities the wards in the charity hospitals are open to students of this college for bedside instruction The laboratory and lecture-room space is ample This college is a member of the Association of American Medical Colleges The course extends over four years of seven months each Fees First and second years $80 each third, $75 and $100 for the fourth year which includes graduation fee The Dean is Dr Henry Jameson Newton Claypool Bldg Total enrolment for 1903 4 was 303 graduates, 80 The thirty fifth session opens September 1904 and closes April 1905

Eclectic Medical College of Indiana.—This school was organized in 1900 and has a teaching force of 31 The course is four years of six months each Fees For each year $75 or for all four $225 $25 for graduation. Total registration 1903-4 35 graduates 7 The Dean is Dr W M Brown 732 Sheffield Ave The next session begins Sept. 20 1904 and ends April 12 1905

Physio-Medical College of Indiana —This school was organized in 1873 and has a faculty of 31 The course is four years of seven months each Total fees for each year are $70 The Secretary is Dr C T Bedford Total enrolment 1903 4 was 32 graduates 9 The next session begins Sept. 13 1904 and closes April 13, 1905

Fort Wayne

Fort Wayne College of Medicine.—This school is the Medical Department of the Northern Ohio University located at Ada, and was organized in 1879 It has a faculty of 27 professors and 9 lecturers and assistants, a total of 36 St. Joseph's Hospital with a capacity of 250 patients Hope Hospital with 200 beds St Roche's Hospital having accommodation for 35 patients Indiana School for Feeble-Minded Youth and Allen County Orphan Asylum capable of holding 150 children supply the clinical facilities This school is a member of the Association of American Medical Colleges The curriculum covers four years of seven months each The course is practical supplemented by lectures and laboratory work The total fees for each year are $75 with an additional $5 matriculation fee payable once. The Dean is Dr C. B Stemen 715 Broadway Total registration 1903-4, was 46 graduates 5 The next session opens Sept. 14 1904 and closes April 18, 1905

Bloomington.

Indiana Universsty School of Medicine.—This school was organized in 1903 and gives only the first two years of the medical course, extending over eight months in each year The faculty consists of 7 professors and 2 assistants a total of 9 Dr Burton D Myers is the Acting Dean The enrolment in 1903-4 was 18 The next session begins Sept. 20 1904 and ends June 16 1905

IOWA

Iowa, population 2,231,853, contains five medical colleges The College of Medicine of the State University of Iowa and the College of Homeopathic Medicine of the State University of Iowa are located in Iowa City (population 7,987) In Des Moines (population 62,139) is the Iowa College of Physicians and Surgeons In Sioux City (population 33,111) is the Sioux City College of Medicine. In Keokuk (population 15,641) is Keokuk Medical College, College of Physicians and Surgeons Board and lodging may be had in Des Moines for $15 a month and upward and in the other cities named for from $2 50 to $5 per week

Iowa City

College of Medicine of the State University of Iowa.—This department was organized in 1870 The faculty is made up of 13 professors. 26 lecturers, demonstrators and assistants, a total of 39 The University Hospital built in 1897 at a cost of $50 000 supplies the clinical material The school is a member of the Association of American Medical Colleges The course of study covers four years of thirty six weeks each embracing graded laboratory, didactic and clinical work Combined courses leading to more than one degree are offered Total fees for each year are $65 The Dean is Dr James R Guthrie Dubuque Total number of students registered for 1903 4 was 251 graduates 35 The thirty-fifth session opens Sept 24, 1904, and ends June 15, 1905

COLLEGE OF HOMEOPATHIC MEDICINE OF THE STATE UNIVERSITY OF IOWA —This was organized in 1877 The faculty is composed of 12 professors and 12 lecturers and assistants a total of 24, but some of these are of the faculty of the College of Medicine The requirements for admission and the work with the exception of that pertaining to homeopathy, are the same as those for the other department The fees are also the same The Dean is Dr George Royal Des Moines Total registration for 1903 4 was 35, graduates, 9 The twenty eighth session begins Sept 22, 1904, and will end June 14 1905

Des Moines.

DRAKE UNIVERSITY COLLEGE OF MEDICINE —This school was organized in 1882 under the name of the Iowa College of Physicians and Surgeons In 1900 it became affiliated with Drake University The faculty consists of 17 professors and 25 assistants a total of 42 The Mercy and Methodist hospitals and a large dispensary clinic furnish clinical material The college is a member of the Association of American Medical Colleges The requirements for admission after the 1st of July 1905 will be a full four years' high school course or its equivalent. The work covers a graded course of four years of nine months each The total fees for the first two years are $107 each including laboratory and dissecting material for the last two years, $89 each including hospital fees The Dean is Dr D S Fairchild The total registration for 1903 4 was 65 graduates 13 The twenty third session begins Sept. 19, 1904 and ends June 19, 1905

Keokuk.

KEOKUK MEDICAL COLLEGE, COLLEGE OF PHYSICIANS AND SURGEONS —In 1849 the College of Physicians and Surgeons Keokuk, was organized and four years later it became the Medical Department of the University of Iowa continuing as such until 1870 when the original name was resumed By the union in 1899 of this college with the Keokuk Medical College organized in 1890, the present school under the above name was founded The clinical material is good St Joseph s Hospital is open to the student for study and the clinics held there are large and varied The faculty is composed of 17 professors and 3 assistants and demonstrators 20 in all This college is a member of the Association of American Medical Colleges The studies embrace a graded course of four years of seven months each The total fees for the first year are $63 for the second and third $58 each and $53 for the last year The Secretary is Dr C E Ruth Total registration for 1903 4 was 287 graduates 47 The next session begins Sept. 20, 1904, and ends April 25, 1905

Sioux City

SIOUX CITY COLLEGE OF MEDICINE —This school was organized in 1891 The faculty numbers 22 Clinical material is supplied by St Joseph s Mercy and Samaritan Hospitals and a college dispensary This college is a member of the Association of American Medical Colleges The system of study embraces a four year graded course eight months being a school year Final examinations are held at the close of each course of instruction Matriculation fee paid but once $5 tuition each year $48 hospital fee $5 and graduating fee $20 The President is Dr J. N Warren Total number of students registered 1903-4, was 58 graduates. 12 The fifteenth session opens Sept 13, 1904, and will close May 2 1905

KANSAS

Kansas, population 1,470,495, has three medical colleges Kansas Medical College is in Topeka (population 33,608), and the College of Physicians and Surgeons in Kansas City (population 55,000) In addition, there is a school which does not grant degrees, but prepares students in the first two years This is the Medical School of the University of Kansas, at Lawrence, a town of 10,862 people Board and lodging in all these places may be had for $3 to $5 per week

Lawrence.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF KANSAS —This school does not confer the degree of Doctor of Medicine It was organized in 1880 The faculty numbers 18 This school is a member of the Association of American Medical Colleges. Only the purely scientific subjects are taught but the work in these is thorough, seventy two weeks being devoted to the two-year course The greater part of the work is in the laboratory with recitations and assigned readings the lectures being supplementary only For this reason the equipment and arrangement of the laboratories have been given special attention A combined course of four years is offered conferring the degree of bachelor of arts in medicine" The total fees to residents of the state are First year $35, second, $30 to non residents of the state $60 and $50 The Acting Dean is Dr C E McClung The number of students registered for 1903-4 was 22 The next session begins September 1904, and will end June 1905

Topeka

KANSAS MEDICAL COLLEGE MEDICAL DEPARTMENT OF WASHBURN COLLEGE —This college, organized in 1890 has a faculty of 25 professors and 8 lecturers and assistants, 33 in all Good material for both medical and surgical clinics is found in Christ s Hospital, with 100 beds and Topeka State Hospital the dispensary in the college building also supplies material for class demonstration The college is a member of the Association of American Medical Colleges The college building affords ample laboratory and lecture room space The course of study is a graded one, covering four years of 30 weeks each Individual instruction is especially aimed at The total fees for the first three years are $70 each and $30 for the last year The Dean is Dr H L Alkire. The total registration for 1903 4 was 104 graduates 16 The fifteenth session begins Sept 15, 1904, and will close April 20, 1905

Kansas City

COLLEGE OF PHYSICIANS AND SURGEONS —This was organized in 1894 as the Medical Department of Kansas City University The faculty is made up of 30 professors 13 lecturers and assistants a total of 43 Bethany Hospital with 60 beds St Margaret's Hospital, a college dispensary and an outside obstetric department supply clinical material Practical demonstration and bedside teaching is emphasized in the work The requirements for admission are in accordance with the rules of the Association of American Medical Colleges The course of study is a graded one of four years, seven months each A scholarship is offered for $195 but, taken separately the total fees for the first three years are $65 each and for the fourth year $55 matriculation fee $5 payable once The Dean is Dr J E Sawtell The total registration of students for 1903-4 was 84, graduates 10 The eleventh session opens Sept. 1 1903, and will close March 30 1905

KENTUCKY

Kentucky, population 2,147,174, has seven medical colleges They are all situated in Louisville, a city of about 225,000 inhabitants, and are as follows University of Louisville Medical Department, Kentucky School of Medicine, Louisville Medical College, Hospital College of Medicine, Southwestern Homeopathic Medical College, Kentucky University Medical Department, and Louisville National Medical College Board and lodging in Louisville cost from $3 to $4 per week

Louisville

KENTUCKY SCHOOL OF MEDICINE.—This school was organized in 1850 and has a faculty composed of 20 professors 19 lecturers instructors and assistants a total of 39 The College Hospital City Hospital and the college dispensary furnish the facilities for clinical study The student is brought directly into contact with the patient through dispensary and bedside work by dividing the classes into sections This college is a member of the Association of American Medical Colleges The laboratories and their equipment are good The curriculum embraces a four years' course of 28 weeks each The fees for the first two years are $120 each for the third year $100 and $90 for the fourth year The Dean is Dr W H Wathen 628½ Fourth Ave Total number of students registered for 1903 4 was 275 graduates 58 The next session begins Dec 15 1904, and will end July 15 1905

LOUISVILLE MEDICAL COLLEGE.—This school was organized in 1869 and has a faculty of 12 professors and 14 instructors and assistants 26 in all The City Hospital College Infirmary and a dispensary offer good clinical facilities Applicants for admission must show by diploma certificate or examination that they are sufficiently proficient in English arithmetic algebra physics and such Latin as would be acquired in one year s study The laboratories and lecture rooms are ample The course of study covers four years of six months each The fees for the first three years are $100 each for the fourth $90 The Secretary is Dr Irvin Abell Total registration for 1903 4 was 248 graduates 61 The next session opens Sept 21, 1904, and closes March 31, 1905

HOSPITAL COLLEGE OF MEDICINE —This school is the medical department of Central University of Kentucky and was organized in 1873 The faculty is composed of 14 professors and 35 assistants lecturers etc, a total of 49 The Gray Street Infirmary City Hospital and a well equipped college dispensary present good facilities for clinical study This college is a member of the Association of American Medical Colleges Laboratory work which is a prominent feature of the course is thorough and practical The laboratories and amphitheaters are ample in equipment and capacity and the hospital advantages give opportunity for personal bedside instruction The course covers four years of six months each Total fees for each of first two years $75 for the third $75 and $100 for the fourth year The Dean is Dr P Richard Taylor Total enrolment for 1903 4 was 421 graduates 99 The thirty first session opens Jan 1, 1905, and closes July 1, 1905

KENTUCKY UNIVERSITY MEDICAL DEPARTMENT —This school was organized in 1898 The faculty is composed of 14 professors 20 lecturers demonstrators etc 34 in all Broadway Infirmary the City Hospital and a college dispensary furnish clinical material The school is a member of the Association of American Medical Colleges The buildings provide ample facilities for clinical laboratory and didactic instruction The course of study embraces graded work for four years of twenty six weeks each The calendar year is divided into four quarters of thirteen weeks each Two quarters constitute a college year Fees are $25 per quarter The Dean is Dr Thomas C Evans 419 W Chestnut St Total number of students registered in 1903 4 was 370, graduates, 71 The next session opens Oct. 1 1904

UNIVERSITY OF LOUISVILLE MEDICAL DEPARTMENT —This school was organized in 1837 under the name Louisville Medical Institute, and in 1846 assumed its present title It has a faculty of 11 professors, 23 lecturers demonstrators etc a total of 34 The University Hospital City Hospital Sts Mary and Elizabeth Hospital together with the college dispensary furnish good clinical material The course covers graded work for four years of six months each There are two six months courses in the year one course runs from Sept. 26 1904 to April 26 1905 the other runs from Dec 1 1904 to July 1 1905 Total fees First year $107, second $122 third $100 and fourth $112 The Dean is Dr J M Bodine Total registration for 1903 4 was 210 graduates 38 The sixty eighth session begins Sept 26 1904

SOUTHWESTERN HOMEOPATHIC MEDICAL COLLEGE —This college was organized in 1892 and has a faculty of 17 professors and 7 lecturers and assistants 24 in all A college dispensary supplies clinical material The curriculum covers four years of seven months each Total fees First and second years, $80 third $70, and $65 for the fourth The Dean is Dr A L. Monroe Total number of students for 1903 4 was 21 graduates 6 Next session opens Sept. 27 1904, and closes April 26 1905

Louisville National Medical College—Colored. This was chartered in 1888 and shows a teaching force of 28 There is a four year course seven months to the year the fees are $58 $58, $35 and $70 for the four years respectively The Dean is Dr W A Burney The attendance 1903 4 was 38 graduates 4 The next session opens Oct. 3 1904, and ends about May 3 1905

LOUISIANA.

Louisiana, having a population of 1,381,625, contains two medical colleges Medical Department of the Tulane University of Louisiana and New Orleans University They are both situated in New Orleans, a city of 287,104 people The cost of room and board is from $16 to $22 a month

New Orleans

Flint Medical College of New Orleans University—Colored This school was organized in 1889 The faculty is made up of 7 professors 4 lecturers and instructors 11 in all Clinical material is supplied by the Sarah Goodridge Hospital and by an outdoor clinic This college is a member of the Association of American Medical Colleges The curriculum covers a graded course of four years thirty weeks each The laboratories and lecture rooms are ample. Examinations are held monthly Total fees for the first, second and third year are $40 each and $50 for the last year The Dean is Dr H J Clements New Orleans Total enrolment for 1903-4 was 50 graduates 5 The sixteenth college year begins Sept 5 1904 and will end March 18, 1905

Medical Department of the Tulane University of Louisiana.—This school was organized in 1834 as the Medical College of Louisiana and became by law in 1847 the Medical Department of the University of Louisiana and in 1884 the Medical Department of the Tulane University of Louisiana. The faculty and all other instructors number 48 By acts of legislature the Charity Hospital with its 900 beds has been opened to the students of this school for clinical study not only in medicine and surgery but also in obstetrics and gynecology In the year 1903 there were 8 813 cases treated in the wards of this hospital these were indoor patients and in addition 10 302 outdoor patients were treated in the free dispensary department The Milliken Memorial Hospital with a capacity for 200 children is also available for study of clinical cases Bedside instruction is given by the attending physicians to these hospitals and postmortem examinations are held before the students The laboratories are large and well equipped and the lecture rooms and recitation rooms are ample The course of study covers four terms of twenty-eight weeks each Total fees for the first two years are $135 each and for the third and fourth $145 and $170 respectively The Dean is Dr Stanford E Chaille New Orleans The total number of medical students registered for 1903 4 was 438 graduates 82 The seventy first session begins Oct. 20 1904 and will close May 8 1905

MAINE

Maine, population 694,466, has one medical college, located in Portland, population 60,000 Board and lodging cost from $3 to $5 a week

Portland.

Medical School of Maine—This the Medical Department of Bowdoin College, was organized in 1820 It has 13 professors and 5 instructors total 18 Students of the first and second years are instructed in Brunswick a town of 6 800 inhabitants The third and fourth year classes are taught in Portland where are situated the Maine General Hospital and other clinical advantages. Applicants for admission unless they possess a diploma are examined in English arithmetic algebra, geometry United States history physics chemistry and Latin The course covers four years of eight months each The total fees are $120 for the first year for the second and third $110 and $110 for the fourth year The Dean is Dr Alfred Mitchell Brunswick Total number of students in 1904 101 graduates 22 The next session opens Oct 20 1904 and closes June 21 1905

MARYLAND

Maryland, with a population of 1,188,044, contains eight medical colleges, all located in Baltimore, a city with 508,957 inhabitants They are as follows School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore University School of Medicine, Baltimore Medical College, Woman's Medical College, Southern Homeopathic Medical College, Johns Hopkins Medical School and Maryland Medical College The Bay View Hospital, having a capacity for 2,000 patients, is open to students for clinical instruction, and furnishes good opportunities for practical demonstrations Board and lodging can be obtained for from $3 to $5 per week

Baltimore.

Johns Hopkins Medical School.—This is the Medical Department of Johns Hopkins University and was organized in 1893 The faculty comprises 11 professors 10 lecturers and assistants a total of 81 The Johns Hopkins Hospital and Dispensary furnishes abundant and varied clinical material the lying in department of the hospital opened in 1896 is in successful operation The requirements for admission demand that the applicant either has (a) completed the chemical biologic course which leads to the A B degree in the university, (b) graduated at an approved college or scientific school and can furnish evidence of an acquaintance with Latin and a fair reading knowledge of French and German, and a knowledge of physics chemistry and biology such as may be obtained from a year s course including laboratory instruction. The school is a member of the Association of American Medical Colleges. The laboratories are large, well lighted and well equipped. The buildings are ample and built expressly for the purpose for which they are used In the method of instruction special emphasis is laid on practical work in the laboratories, dispensary and in the wards of the hospital The first two years are devoted to practical work in the laboratories combined with demonstrations, recitations and lectures and during the remainder of the course opportunity for the personal study of cases is given. The work covers a graded course of four years eight and a half months to the year Final examinations partly written and partly oral include practical tests in laboratory and clinical work the general character of the student s work is closely watched The charge for tuition is $200 per annum with no fees unless a microscope is rented, that fee is $5 a year The Dean is Dr William H Howell 232 W Lanvale St. Total registration in 1903 4 was 276 graduates, 45 The next session begins Oct 4 1904 and ends June 18 1905

School of Medicine of the University of Maryland—This institution was organized in 1807 as the College of Medicine of Maryland and in 1812 other faculties having been added, the whole was chartered under the name of the University of Maryland The faculty is composed of 13 professors, 45 associates and lecturers, etc., a total of 58 The University Hospital a part of which is used for a hospital for foreign seamen and another portion for a free city hospital offers excellent clinical facilities Beside this the Presbyterian Eye Ear and Throat Charity Hospital, in which 11 317 patients were treated in 1902 the Hospital for the Relief of Crippled and Deformed Children, containing 40 beds the Maternity Hospital and a college dispensary furnish material for clinical study This school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are ample and well equipped. An entirely new laboratory building has just been erected The fourth year class divided into sections receives special training in practical laboratory work in a well appointed clinical laboratory Didactic laboratory and clinical instruction, special attention being paid to bedside work make up the system of teaching The course covers four years of seven and a half months each and is graded The total fees for the first two years are $185 each for the third year $125 and $155 for the final year The Dean is Dr R Dorsey Coale Baltimore The total number of students registered in 1903-4 was 340, graduates 96 The ninety eighth session begins Oct 1 1904, and will terminate May 15 1905

Baltimore Medical College.—This college was organized in 1881 and has a faculty of 54 The clinical material is furnished by the Maryland General Hospital having a capacity of 200 beds, the Maryland Lying in Hospital the Mount Hope Retreat which presents good opportunity for the study of nervous and mental diseases and a college dispensary which beside the great number of ambulatory patients treated, has an outdoor department that permits of the advanced student taking care of charity cases and carrying out his own treatment. This college belongs to the Association of American Medical Colleges. The college buildings afford ample laboratory clinical and lecture room space Bedside teaching in the hospital wards is carried on in sections. and every member of the senior class is required to attend throughout the session. The course of study is graded and covers four years of eight months each The Dean is Dr David Streett. The total number of students registered in 1903-4 was 400 graduates 77 The twenty fourth session opens Sept. 20 1904, and closes May 12, 1905

College of Physicians and Surgeons Baltimore—This school was organized in 1872 and in 1878 Washington University School of Medicine, established in 1827 was consolidated with it. The faculty numbers 40 The clinical facilities beside those afforded in common with other schools are supplied by the Baltimore City Hospital the Hospital for the Colored Race containing 100 beds the Nursery and Child s Hospital with 150 beds the Maryland Lying in Asylum and a college dispensary This school is a member of the Association of American Medical Colleges. The work covers a graded course of four years seven months constituting a year Total fees are $115, $115 $115 and $135 for the respective years. The Dean is Dr Thomas Opie. The total number of students registered in 1903 4 was 343 graduates 83 The next session opens Oct. 1 1904 and closes May 18, 1905

Maryland Medical College.—This school was organized in 1898 and has a faculty of 14 professors 24 associates, lecturers etc 38 in all The Franklin Square Hospital and a college dispensary furnish clinical material The course of study covers four years of eight months each A matriculation fee of $5 and total laboratory fees for the three years of $50 are charged tuition is $75 each year The Dean is Dr J Wm Funck 1631 Eutaw Pl Total registration for 1903 4 was 223 graduates 104 The seventh session begins Sept. 15 1904, and closes in May, 1905

Baltimore University School of Medicine.—This school organized in 1884 has a faculty of 10 professors and 25 lecturers demonstrators, etc in all 35 The Baltimore University Hospital Lying in Hospital and the clinical material used in common with the other schools supply the facilities for practical work The course is four years of six months each The fees are about $100 each year The Dean is Dr Hampson H Biedler 110 W Saratoga St. Total registration for year 1903-4 was 71 graduates, 51 The twenty first session opens Oct. 1 1904, and closes April, 1905

Woman's Medical College.—This school was organized in 1882 and has a faculty of 18 professors 14 associates assistants and lecturers a total of 32 The Hospital of the Woman s Medical College and a college dispensary furnish general clinical material while abundant special material is furnished by the Presbyterian. Eye and Ear and the Sheppard and Enoch Pratt Hospital (for mental cases) The college is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are equipped with all necessary apparatus the practical work is emphasized. Eight months constitute a school year and the course covers graded work for four years. The total fees for the first three years are $100 each. and $81 for the last year with $30 graduation fee. The Dean is Dr R. H Thomas 1718 John St. Total number registered for 1903-4 was 24 graduates, 3 The twenty third session opens Oct 1 1904 and closes May 31 1905

Southern Homeopathic Medical College—This school was organized in 1890 and has a faculty of 10 professors 24 associates and lecturers a total of 34 The clinical facilities are those offered by the Maryland Homeopathic Hospital which has 55 beds, and the dispensary the obstetric department also furnishes clinical material Applicants for matriculation must pass a satisfactory examination in English arithmetic geography, history and Latin, unless they possess satisfactory evidence that they have done a corresponding amount of work The course covers graded work for four years seven months to the year The fees are $105 for the first year $100 each for the second and third and $130 for the last year $350 in advance for the full four years course with a reduction in the fees for fourth year to those whose averages exceed 90 per cent in previous years. The Dean is Dr George T Shower 421 Roland Ave Total registration for 1903 4 was 39 graduates, 13 The fourteenth session begins first Tuesday in October, 1904, and ends first Tuesday in May, 1905

MASSACHUSETTS

Massachusetts, population 2,805,346, has four medical colleges Medical School for Harvard University, Boston University School of Medicine, College of Physicians and Surgeons, and Tufts College Medical School They are all situated in Boston, a city of 603,163 inhabitants Board and lodging can be obtained for from $5 to $7 per week

Boston

Medical School of Harvard University—This was organized in 1782 and has a faculty of 34 professors 115 associates and assistants etc a total of 149 Beside the clinical advantages mentioned the Boston Lying In Hospital the Boston Dispensary where 43 918 patients were treated last year the Infants' Hospital the Children s Hospital Long Island Hospital containing 250 beds and the Marine Hospital all furnish excellent opportunity to the student for clinical study Students are also permitted to visit the Free Hospital for Women and Carney Hospital on application to the physicians on duty Candidates for admission must present a degree in arts literature philosophy or science from a recognized college or scientific school with the exception of such persons of suitable age and attainments as may be admitted by special vote of the faculty in each case Each candidate is required to hand in the original note-book in which he recorded the work performed by him in qualitative analysis and also to pass a written examination in theoretical and descriptive chemistry If conditioned in chemistry one year is allowed in which to remove the condition The laboratories and lecture rooms offer ample facilities and the equipment is good special facilities are open to those desiring to pursue advanced or original work The course of study covers four years of nine months each the course is graded and each corelated group as taken up presents sufficient variety to avoid monotony A series of written oral and practical examinations are distributed throughout the course of study Fees Matriculation $5 $200 each year The Dean is Dr William L Richardson 688 Boylston St. The total resigstration for 1903 4 was 364 graduates 133 The 123d session begins Sept 29 1904 and ends June 28, 1905

College of Physicians and Surgeons—This school was organized in 1880 and has a faculty of 25 professors and 11 lecturers and assistants a total of 36 Clinical facilities are furnished by the North End Hospital and Dispensary Union General Hospital, and the city and state institutions This school is a member of the Association of American Medical Colleges The course of study covers graded work for four years of eight months each The total fees for the first year are $100 and for each of the other years about $110 with a graduation fee of $30 The Registrar is Dr John H Jackson 155 Franklin St. Fall River Total students registered 1903 4 117 graduates 27 The twenty fifth session begins Sept. 21 1904 and ends June 1905

Boston University School of Medicine—Homeopathic This school was organized in 1873 In 1874 the New England Female Medical College founded in 1848 was merged into it The faculty includes 20 professors 42 associates and assistants, etc a total of 62 Clinical material is furnished by the Massachusetts Homeopathic Hospital containing 235 beds, a dispensary a maternity hospital and the Westborough Insane Hospital 800 patients Candidates who have taken their degree in arts philosophy or science are not examined all others are examined in English Latin, French or German or history mathematics physics and chemistry The instruction is graded and covers a period of four years eight months each Total fees for the first year are $105 for the second and third $125 each and for the last year $155 The Dean is Dr John P Sutherland 295 Commonwealth Ave Total registration for 1903 4 was 99 graduates 27 The thirty second session opens Oct 6 1904 and closes June 7 1905

Tufts College Medical School—This school was organized in 1893 as the Medical Department of Tufts College It has a faculty of 31 professors 77 assistants and lecturers etc, a total of 108 Clinical material is furnished by the Boston City Hospital Massachusetts Charitable Eye and Ear Infirmary Free Home for Consumptives Free Hospital for Women Boston Dispensary Cambridge Hospital St Elizabeth s Hospital Carney Hospital and the college dispensary the student has also the advantages derived from an out department in connection with the Boston Dispensary "Graduates of a high school college or university and students having certificates of entrance to a college or university or holding the State of New York Regents' certificate also certain approved preparatory school graduates are admitted without examination all others must pass an examination in English Latin physics and mathematics including arithmetic elementary algebra and plane geometry The laboratories and lecture rooms are ample in their equipment and capacity Teaching is carried on by means of lectures recitations and practical work in the laboratories and clinics, frequent examinations are held during a course and a final examination on completing the subject Graded instruction covering four years of eight months each makes up the full course The total fees are $150 each year dissecting material is furnished at cost The Dean is Dr Harold Williams 528 Beacon St Total number of students for 1903-4 was 394 graduates, 50 The eleventh session begins Oct 4, 1904 and ends June 15, 1905

MICHIGAN

Michigan, population 2,420,982, has six medical colleges Two of these, University of Michigan, Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a city of 14,509 people Board and lodging cost from $2 50 to $5 a week Detroit, a city of 300,000 inhabitants, contains three medical colleges, as follows Detroit College of Medicine, Detroit Homeopathic College and the Michigan College of Medicine and Surgery Board and room can be obtained for $3 a week and upward Grand Rapids Medical College is located in Grand Rapids, population 87,565 Room and board cost from $3 to $3 50 a week

Ann Arbor

University of Michigan, Department of Medicine and Surgery—This was organized in 1850 and has a faculty composed of 17 professors 61 associates instructors etc a total of 78 The University Hospital with nearly 200 beds furnishes the clinical facilities The requirements for admission provide that the applicant either by certificate or examination show a sufficient knowledge of the following English grammar rhetoric and composition, United States and general history algebra through quadratics, plane and solid geometry and plane trigonometry physics biology and chemistry these subjects to be accompanied by laboratory work German or French and Latin The laboratories and their equipment are good and the training in them and in didactic work is thorough The new medical building accommodating the laboratories of hygiene bacteriology physiologic chemistry pathology, histology embryology and anatomy is now completed and occupied This school is a member of the Association of American Medical Colleges The curriculum embraces four years of nine months each A combined course leading to degrees in both arts and medicine in six years is offered The total fees for Michigan students for the entire course of four years is about $300 and for others $350 The Dean is Dr Victor C Vaughan Total registration for 1903-4 was 418 graduates, 101 Next session begins Sept 27, 1904, and will end June 22 1905

Homeopathic College University of Michigan—This department of the University was organized in 1875 and has a faculty of 20 professors and 20 assistants total 40 a part of the teaching force is from the other departments of the University The Homeopathic Hospital containing 140 beds furnishes material for clinical teaching The course covers four years of nine months each The total fees for Michigan students are about $240 for the four years, and for other students about $295 The Dean is Dr W B Hinsdale The enrolment for 1903 4 was 69 graduates 21 The next session begins Sept. 27, 1904 and closes June 22, 1905

Detroit

Detroit College of Medicine—This school was formed in 1885 by the union of Detroit Medical College organized in 1868 and the Michigan College of Medicine established 1880 The faculty embraces 21 professors, 50 lecturers, instructors etc a total of 71 Clinical facilities are offered by the following hospitals St Mary's and Harper each of which contain a free dispensary Woman's St Luke's the Children s Free Hospital and the House of Providence This school is a member of the Association of American Medical Colleges The course covers four years of seven months each The work includes laboratory didactic and clinical study Fees Matriculation paid once, $5 tuition each term $65 hospital and laboratory tickets each $10 and diploma fee $30 The Secretary is Dr H O Walker Total enrolment for 1903 4 was 260 graduates 72 The next session begins Sept 21, 1904, and will close May 4 1905

Michigan College of Medicine and Surgery—Saginaw Valley Medical College—These two schools organized in 1888 and 1896 respectively were consolidated last year to continue on the site of the former The faculty numbers 45 Clinical facilities are offered by a college dispensary the Emergency Hospital and Detroit Eye and Ear Infirmary This school is a member of the Association of American Medical Colleges The course covers graded work for four years of eight months each The fees are about $80 to $95 per year third year $70 and $95 for the fourth year The Dean is Dr Hal C Wyman 46 W Adams Ave Detroit Total registration for 1903 4 of the Michigan College of Medicine and Surgery was 110 graduates 26 The next session begins Sept. 17, 1904 and will end May 17, 1905

Detroit Homeopathic College—This was organized in 1899, and has a faculty of 37 Grace Hospital and a college dispensary are available for study of clinical cases Unless possessing at least a high school diploma applicants for admission will be examined by the state board The course embraces work for four years of eight months each Fees From $70 to $90 per year The Dean is Dr D A MacLachlan Registrar J M Griffin Total enrolment for 1903 4 was 50 graduates 8 The next session begins September, 1904, and will close April, 1905

Grand Rapids

Grand Rapids Medical College—This was organized in 1897 The faculty is made up of 28 professors and 3 assistants in all 31 Clinical cases in the U B A St Mary s and Woman's Butterworth hospitals and St. John's Orphan Asylum and a college dispensary are available for study The course is four years of seven months each The total fees are about $65 for each year The Dean is Dr C H White. Total enrolment for 1903-4 was 56 graduates, none. Next session opens Sept 28 1904 and closes May 1, 1905

MINNESOTA

Minnesota, population 1,751,394, contains three medical colleges Hamline University College of Medicine, and the two medical departments of the University of Minnesota, viz, the College of Medicine and Surgery and the College of Homeopathic Medicine and Surgery They are all situated in Minneapolis, a city with a population of 225,000 The various hospitals of Minneapolis furnish ample clinical material, and owing to the proximity to St Paul, the clinical advantages of that city are available The average cost of board and lodging is $20 a month

Minneapolis.

COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MINNESOTA —This department of the University of Minnesota was created in 1883 but at that time its only function was to examine for the degrees of B M or M D In 1888 by the consolidation and absorption of the Minnesota Hospital Medical College and the St. Paul Medical College its present status was assumed The faculty is composed of 30 professors and 72 instructors and assistants a total of 102 The medical school occupies five buildings, and its laboratories are excellent The last legislature made an appropriation of $105 000 for an additional laboratory of pathology and bacteriology Eight large hospitals in the Twin Cities, beside the University dispensary and St. Paul dispensary afford an abundant supply of material for clinical study The curriculum covers four years of nine months each and the work is carefully graded The entrance requirement of one year of university in addition to four years of high school work, limits the number of students but assures a high standard of the student body Total number of students registered in 1903 4 was 266 graduates 67 Total fees for each year $100 The Dean is Dr Parks Ritchie. The next session opens Sept. 1 1904 and closes June 2 1905

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY —This is a department of the University of Minnesota and was organized in 1888. The faculty comprises 19 professors and 14 assistants 33 in all The primary branches are taught by the professors of the College of Medicine and Surgery The course is graded extending over four years of nine months each The total fees for the first two years are $100 each and $80 each for the last two years The Dean is Dr Eugene L Mann Total number of students registered in 1903-4 was 18 graduates 4 The next session opens Sept 2 1904, and closes June 3 1905

HAMLINE UNIVERSITY COLLEGE OF MEDICINE —This was organized in 1883 Its faculty is composed of 26 professors 17 instructors and assistants, a total of 43 The laboratories and lecture rooms are large well lighted and supplied with all the necessary equipment Clinical work is offered to the student in City Hospital Asbury Methodist Hospital Swedish St. Barnabas and St. Mary s hospitals in Minneapolis Bethesda Hospital City and County and St. Joseph s in St Paul and the college dispensary This school belongs to the Association of American Medical Colleges The course of study covers graded work for four years eight and a half months making a year Total fees first year $90 second year $87 50 and for each of the last two $80 The Dean is Dr George C Barton Total number of students 1903-4 was 86 graduates 16 The next session begins Sept. 20 1904, and ends June 7 1905

MISSISSIPPI

Mississippi, population 1,551,270, has one medical college, the Medical Department of the University of Mississippi, located at Oxford, a city with 2,000 inhabitants

Oxford.

MEDICAL DEPARTMENT UNIVERSITY OF MISSISSIPPI —This school was organized one year ago with 9 professors and 2 assistants a total of 11 Each college term extends over eight and one-half months The school is a member of the Association of American Medical Colleges Dr W S Leathers is the acting dean The total registration in 1903 4 was 16 graduates none The next session begins Sept. 22 1904, and ends June 10, 1905

MISSOURI

Missouri, population 3 106 665, has fifteen medical colleges St Louis, population 575,238, contains six of these, viz. St. Louis College of Physicians and Surgeons, American Medical College, Homeopathic Medical College of Missouri Marion Sims Beaumont College of Medicine, Washington University Medical Department, and Barnes Medical College Board and lodging can be procured for from $3 50 to $5 a week Kansas City, with 163,752 inhabitants, has six colleges, namely Kansas City Medical College, University Medical College, the Hahnemann Medical College of Kansas City, Woman's Medical College, Medico Chirurgical College and Eclectic Medical University Room and board can be obtained in this city for from $3 to $5 a week. Ensworth Medical College and Central Medical College are located in St. Joseph, population 105 000, board and room can be had for from $3 50 to $5 a week Department of Medicine of the University of Missouri is at Columbia, a town of 5,651 Board and lodging can be obtained at Columbia for from $2 to $5 a week

St. Louis

ST LOUIS COLLEGE OF PHYSICIANS AND SURGEONS —This school was organized in 1878, and has a faculty of 23 professors, 30 lecturers instructors, etc. a total of 53 The resources for clinical instruction are Jefferson Hospital which is open to students of this college only City Hospital, with 600 beds Female Hospital, having 250 beds City Insane Asylum City Poorhouse, and the college dispensary This college is a member of the Association of American Medical Colleges. The laboratory and lecture-room space and the equipment are ample The course of study covers four years of seven months each, and is graded. Total fees for the first year are $80 second $70 third, $75 and $85 for the fourth year The Dean is Dr Waldo Briggs 2600 Gamble St Total number of students registered 1904 5 was 240 graduates 47 The twenty sixth session begins Sept. 15, 1904, and ends April 13 1905

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT —This school was organized in 1891 from the St. Louis Medical College, which was founded in 1842 In 1899 the Missouri Medical College organized in 1840 was added The faculty comprises 38 professors, 23 lecturers and instructors, a total of 61 Clinical material is furnished by the St. Louis Mullanphy Hospital Polyclinic Hospital Bethesda Hospital and O Fallon s Dispensary In addition to these, the City Hospital is used in common with the other schools. The requirements for admission are higher than those of the Association of American Medical Colleges The college buildings, of which there are two furnish the best laboratory and lecture-room facilities The course is four years of eight months each, and the system of study embraces laboratory didactic and clinical teaching The total fees for the first year are $125 second $120, and for the third and fourth years $100 each. The Dean is Dr Robert Luedeking Total registration of students for 1903-4 was 279 graduates, 63 The next session opens Sept. 28, 1904, and closes May 25, 1905

MARION SIMS BEAUMONT COLLEGE OF MEDICINE.—This is the Medical Department of the St. Louis University The facculty is composed of 41 professors, 58 lecturers and assistants a total of 99 Clinical facilities are offered by Alexian Brothers Hospital, with 250 beds Rebekah Hospital having a capacity for 50 patients Josephine Hospital 50 beds Mt. St. Rose Throat and Chest Hospital 150 beds Good Samaritan Hospital 50 beds St. Mary s Infirmary, containing 150 beds the City Hospital and Insane Asylum each with a capacity of 600 patients Grand Avenue Dispensary also furnishes good material for practical instruction. This school is a member of the Association of American Medical Colleges. The buildings afford ample laboratory and lecture-room space, and they are well equipped The course of study embraces laboratory and clinical instruction with recitations and lectures The curriculum covers four years of seven months each The total fees for the first year are $80 for the second and third, $75 each, and $100 for the fourth. The Secretary is Dr H W Loeb 3559 Olive St Total number of students registered for 1903-4 was 407 graduates 93 The next session opens Oct. 1, 1904, and closes May 1, 1905

AMERICAN MEDICAL COLLEGE.—Eclectic This was organized in 1873 and has a faculty of 17 professors etc St. Louis City Hospital and a college dispensary supply ample clinical material The requirements for admission are those of the National Federation of Eclectic Medical Colleges of which this college is a member The course of study covers four years of seven months each. The total fees are Tuition, $75 per year dissecting material $5 per year for four years, final examination and graduation fee $25 Total registration for 1903 4 was 76 graduates, 12 The Dean is Dr M M Hamlin 2906 Lawton Avenue. The next session opens Sept. 19 1904 and closes April 22, 1905

BARNES MEDICAL COLLEGE —(Medical Department Barnes University) This school was organized in 1892 and has a faculty of 33 professors and 20 lecturers and assistants a total of 53. The clinical advantages are those offered by Centenary Hospital with 150 beds City Hospital the college dispensary and the out door obstetrical department This college is a member of the Association of American Medical Colleges The laboratories are well equipped and other facilities ample The course of study includes graded work for four years of seven months each The total fees for the first three years are $75 each year and $85 for the fourth year The Secretary is Dr Pinckney French Missouri Trust Building Total registration for 1903-4 was 485 graduates 125 The thirteenth session opens Sept. 19 1904 and closes May 8 1905

WOMAN S MEDICAL COLLEGE —This school was organized in 1895 and has a faculty composed of 44 professors 6 lecturers and assistants a total of 50 The requirements for admission are those of the Association of American Medical Colleges The course of study embraces graded work for four years of seven months each The total fees for the first year are $68 second $60 third, $55 and $80 for the fourth year The Dean is Dr Nannie P Lewis. 1219 Wyandotte St This school was not in session in 1903-4 and will not be in 1904 5

KANSAS CITY HAHNEMANN MEDICAL COLLEGE —This school was formed by the union of the Kansas City Homeopathic Medical College, organized in 1888 and the Kansas City University College of Homeopathic Medicine and Surgery It has a faculty of 38 The City Hospital Homeopathic Hospital the Sanitarium Scarritt, University Women s and Children s, German Bethany and Children s Hospitals are open to its students for clinical study The college dispensary and clinics also supply clinical material Applicants for admission must show by diploma, certificate or examination that they have a sufficient knowledge of English arithmetic geography United States history and Latin equal to one year s work. The course covers four years of seven months each The Dean is Dr S H Anderson, 1214 Main St. Total registration for 1903-4 was 52 graduates 17 The seventeenth session begins September 1904, and closes April 1905

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI —This was organized in 1857 and has a faculty of 24 professors and 7 assistants total 31 The curriculum covers fours years of seven months each Fees First year $80 second $75 third $60 and $85 for the fourth year The Dean is Dr L. C McElwee. Total registration for 1902 3 was 44 graduates, 10 The course begins in September and ends in April

Kansas City

KANSAS CITY MEDICAL COLLEGE.—This was established in 1869 and has a faculty of 20 professors and 30 lecturers, demonstrators etc. in all 52. The clinical facilities are those of St. Joseph s Hospital which also contains an out patient department the City

Hospital, Missouri Pacific Railway Grand View and Douglas hospitals, St Anthony's Home for Children and the college dispensary This college is a member of the Association of American Medical Colleges The building is large and well equipped the course is graded, and the classes in practical work are divided into small sections and required to personally conduct series of obstetric, medical and surgical cases as a condition of graduation. The curriculum embraces four years of seven months each The total fees for the first three years are $75 each and $85 for the fourth The Secretary is Dr R M Schauffler, 302 Deardorff Bldg Total registration for 1903 4 was 120 graduates 34 The thirty sixth session begins Sept. 6, 1904, and ends April 12 1905

UNIVERSITY MEDICAL COLLEGE—This was organized in 1881 as the University of Kansas City Medical Department and in 1888 was reorganized under its present name Its faculty comprises 31 professors and 22 lecturers and assistants a total of 53 Clinical material is furnished by the University Hospital owned by the college with 100 beds the City Hospital German Hospital Home for the Aged containing 147 beds, the Sisters Hospital Scarritt and St Margaret s hospitals the Children s Home St Joseph s Orphan Asylum and the college dispensary and obstetric department. Instruction is given by means of lectures recitatons demonstrations and laboratory work and clinics The school is a member of the Association of American Medical Colleges The college building which has been recently enlarged furnishes ample accommodations for laboratories and lecture rooms The course of study covers four years of seven months each and the work is graded The total fees for each of the first two years are $80 for the third $60 and $85 for the fourth year The Dean is Dr Samuel C James Bryant Bldg The total number of students registered in 1903 4 was 234 graduates 67 The twenty fourth session begins Sept 6 1904, and ends April 28 1905

MEDICO CHIRURGICAL COLLEGE.—This school was organized in 1897 as the Kansas City College of Medicine and Surgery of Kansas City Kan, and was reorganized the following year under its present name Its faculty embraces a total of 52 Clinical facilities are furnished by the hospitals of Kansas City, used in common by the medical colleges and a college dispensary The course covers four years of six months each The fees are For the first year $70 second $65 third $55 and $75 for the fourth year The Dean is Dr C Lester Hall Bryant Bldg Total registration for 1903 4 was 84 graduates, 20 The next session opens Sept 1, 1904 and closes April 15 1905

ECLECTIC MEDICAL UNIVERSITY—This was organized in 1898 and has 22 in its faculty The curriculum covers four years of six months each Fees about $70 each year with a graduation fee of $15 The Dean is Dr Theodore Doyle Total students for 1903 4 was 60 graduates 10 The next session begins Sept 5 1904 and ends April 21 1905

Columbia.

DEPARTMENT OF MEDICINE OF THE UNIVERSITY OF THE STATE OF MISSOURI—This department was organized at Columbia in 1872 The faculty includes 11 professors, 22 assistants lecturers etc a total of 33 Clinical facilities are supplied by the Parker Memorial State Hospital A new $40 000 building for the medical laboratories has just been completed and has excellent equipment Special emphasis is laid on thorough training in the scientific branches which constitute the foundation of medicine Four years course nine months each carefully graded The university offers also a combined course of six years conferring degrees in both arts and medicine The entrance requirements are a diploma from a good high school or the full equivalent There is no charge for tuition the only expenses being a library fee of $10 each year and small laboratory fees The Dean is Dr A W McAlester Total registration of students for 1903 4 was 83 graduates 10 The next session opens Sept 12, 1904 and closes June 7 1905

St Joseph

ENSWORTH MEDICAL COLLEGE—This was organized in 1888, and has a faculty of 25 professors and 7 lecturers and assistants 32 in all Ensworth Hospital with 250 beds City Hospital containing 40 beds the State Hospital No 2 which is open to the students once a week and a college dispensary furnish clinical material Applicants for admission must show by certificate or examination that they possess a sufficient knowledge of English arithmetic algebra physics and Latin equal to one years instruction The building furnishes ample laboratory and lecture-room facilities The curriculum covers a graded course of four years of seven months each The fees are about $55 each for the first three years and $75 for the fourth year The Dean is Dr Jacob Geiger Total enrolment for 1903 4 was 94 graduates 19 The next session opens Sept 1 1904, and closes March 31, 1905

CENTRAL MEDICAL COLLEGE—This school was organized in 1894, and has a faculty of 18 professors and 10 lecturers in all 28 The Methodist and St Joseph s hospitals State Hospital No 2 and the City and County hospitals are available for clinical study a college dispensary also supplies clinical material The requirements for admission are the possession of a high school diploma or its equivalent or an examination The curriculum embraces four years of seven months each Fees First year, $55 second $50 third $50 and $75 for the fourth year The Secretary is Dr C A Tygart. Total enrolment for 1903 4 was 72 graduates 13 The next session begins Sept. 15, 1904 and will end April 15, 1905

NEBRASKA.

Nebraska, population 1,066,300, has three medical colleges The University of Nebraska College of Medicine and John A. Creighton Medical College of Omaha (population 102,555), and Lincoln Medical College, at Lincoln (population 40,169) Board and lodging can be obtained for from $3 to $5 a week

Omaha

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE.—This was organized in 1880 as the Omaha Medical College In 1902 an affiliation was entered into with the University of Nebraska the name being changed to the College of Medicine of the University of Nebraska The first two years are given at Lincoln The last two years are given only at Omaha The faculty is composed of 38 professors and 22 lecturers and assistants total 60 The Douglas County, Immanuel, Wise Memorial and Omaha Methodist hospitals together with the college dispensary furnish an abundance of material for clinical study and demonstration The course consists of graded studies covering four years of eight months each The method of instruction consists of didactic and clinical lectures section clinics demonstrations, recitations and laboratory work The college building is well adapted to its purpose the laboratories being well equipped and the lecture room commodious. The fees including breakage deposits, are $90 for the first two years and $100 for the last two years Total number of students enrolled in 1903 4, 150, graduates 30 The college is a member of the Association of American Medical Colleges The Secretary is Dr Paul H Ludington Bee Building The twenty fourth annual session will begin Sept 20 1904, and end May 25 1905

JOHN A CREIGHTON MEDICAL COLLEGE—This school, organized in 1802 is the Medical Department of Creighton University and has a faculty of 32 professors and 8 associates lecturers and assistants a total of 40 The clinical facilities are those of St Joseph's Hospital containing 300 beds and having a clinical amphitheater connected with it St Bernard s Hospital, with 256 beds Douglas County Hospital Presbyterian and Mercy hospitals, and the college dispensary the material is abundant and varied The school is a member of the Association of American Medical Colleges The building, which was completed in 1808 contains excellent facilities for laboratory and lecture-room work and the equipment is good In the methods of instruction including clinical didactic and laboratory work special emphasis is laid on practical work The course of study embraces four years of seven and one half months each The total fees for the first two years are $80 each and $85 for each of the last two years The Dean is Dr D C Bryant, McCague Bldg Total number of students registered in 1903 4 was 153, graduates 27 The twelfth session opens Sept. 22 1904 and closes May 1, 1905

Lincoln

LINCOLN MEDICAL COLLEGE.—Eclectic. This was organized in 1889, and has a faculty of 28 The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member The course of study covers four years of thirty two weeks each The total fees for the first year are $80, second. $75 third $75 and $85 for the fourth year, or $255 for all four years together The Secretary is Dr Samuel Metheny Total number of students for 1903 4 was 83 graduates 22 The next session begins Oct. 1 1904 and ends May 10, 1905

NEW HAMPSHIRE

New Hampshire, population 411,588, contains one medical college, located in Hanover, population 1884

Hanover

DARTMOUTH MEDICAL SCHOOL.—This is the Medical Department of Dartmouth College and was organized in 1797 Its faculty is made up of 14 professors and 5 instructors 19 in all The Mary Hitchcock Memorial Hospital a cottage hospital of 36 beds supplies the clinical material Applicants for admission must possess an education at least equivalent to graduation from a registered high school The laboratories afford good facilities for work The course covers four years of thirty two weeks each Fees $125 each year The Dean is Dr William T Smith The total number of students registered for 1903 4 was 68 graduates 13 The work for the first and second years begins with that of the academic department commencing Sept 22 1904, and closing June 24 1905 for the advanced classes it begins Aug 15 1904 and ends April 1, 1905

NEW YORK.

New York state, population 7,268,894, has ten medical colleges Seven of these, College of Physicians and Surgeons, Long Island College Hospital, New York Homeopathic Medical College and Hospital, New York Medical College and Hospital for Women, Eclectic Medical College of the City of New York Cornell University Medical College and the University and Bellevue Hospital Medical College, are located in New York City, population 3,437,202 This city, with its hospitals and dispensaries, offers abundant clinical material Board and lodging can be obtained for from $5 to $7 a week

Albany Medical College is in Albany, a city of 100,000 people, where board and room can be had for from $4 to $5 a week

The University of Buffalo Medical Department is situated in Buffalo, population 352,387, here board and lodging can be obtained for from $3 50 to $5 per week

The College of Medicine, Syracuse University, is in Syracuse, a city with 108,374 inhabitants Board and lodging can be obtained for from $3 50 a week upward

The laws of the state of New York require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four years' course in any of the public high schools recognized by the regents as maintaining a satisfactory standard On proof of at least this amount of education, a medical student certificate will be issued by the state authorities Certain medical schools of the state have additional requirements

1 The College of Physicians and Surgeons requires a medical student certificate issued on the attendance of at least one year's course of study in a college or scientific school registered by the Regents as maintaining a satisfactory standard (or the equivalent) or a certificate of the college entrance examination board covering 15 points, each point being the equivalent of a course of five periods weekly throughout the academic year

2 Cornell University Medical College requires Regents' counts, in algebra 4 counts, plane geometry 4 elementary United States history and civics 2, second year English or its equivalent 8, second year Latin or the first four books of Caesar's Commentaries, or first year Latin and first year German or French or Spanish 8, making a total of 26 counts with additional counts aggregating 48 counts

3 University and Bellevue Hospital Medical College requires unconditional matriculation with a medical student certificate

4 The College of Medicine, Syracuse University requires Regents counts, in Latin 4 counts plane geometry 4 algebra 2 and inorganic chemistry 2 with 36 additional, aggregating 48 counts

New York City

College of Physicians and Surgeons—This school was organized in 1807 and its present relation that of Medical Department of Columbia University was assumed in 1860 The faculty embraces 40 professors and 85 demonstrators instructors etc a total of 125 The Vanderbilt Clinic where 44 378 patients were treated during the year 1903 and which is equipped with all modern appliances for the study and treatment of disease and Sloane Maternity Hospital containing 116 beds offer exclusive clinical advantages to students of this school Beside these Roosevelt Hospital containing 238 beds New York Hospital with 150 beds Bellevue 900 beds Presbyterian 350 beds St Luke s 225 beds General Memorial 100 beds, and New York Foundling hospitals together with the Eye and Ear Institute containing 40 beds Willard Parker and Reception hospitals 200 beds Babies Hospital 50 beds St Mary s Free Hospital for Children 120 beds and the Hospital for Ruptured and Crippled 250 beds all offer free clinical teaching to matriculants of this school The laboratories lecture rooms and amphitheaters are ample in equipment and accommodation special provisions are made to equip each student thoroughly in each of the laboratories and thus make the work individual The work is graded covering four years of eight months each The Acting Dean is Dr John G Curtis The total fees for the first year are $255 for the second and third $250 and $275 for the fourth year Total registration for 1903 4 was 091 graduates, 178 The next session begins Sept 28 1904 and ends June 14 1905

Long Island College Hospital—This was organized in 1858 and has a faculty of 20 professors and 75 assistants instructors etc. a total of 95 Long Island College Hospital containing 300 beds and connected with a four story maternity hospital Polhemus Memorial Clinic and Hoagland Laboratory completely equipped with the most modern apparatus are all a part of the college Beside the clinical facilities furnished by these members of the faculty attend at Kings County St Luke s Brooklyn Norwegian Williamsburg Methodist Episcopal and the Brooklyn Eye and Ear hospitals where the students are offered opportunities for clinical study Many of these also contain out patient departments thus permitting advanced students to attend personally to cases Bedside instruction is also given in the wards The course covers four years of thirty weeks each Fees First year $105 second $200 third, $160 and $195 for the fourth year The Secretary is Dr Joseph H Raymond Total registration 1903-4 was 389 graduates 47 The forty seventh session opens Oct 1 1904 and closes June 2 1905 The summer session has been discontinued owing to the lengthening of the regular session

Cornell University Medical College—This department of Cornell University was established in 1898 The faculty is composed of 39 professors and 106 instructors and assistants a total of 145 The City Hospital having 1 000 beds Bellevue Hospital New York Hospital Presbyterian Willard Parker and Reception with 200 beds New York Skin and Cancer St. Francis having a capacity of 230 beds St. Vincent s with 200 beds the Manhattan Eye and Ear Infirmary in addition to a large college dispensary furnish the clinical resources the material is abundant and varied The first two years of the course are taken at New York or at Ithaca and the work is devoted to the fundamental scientific subjects The last two years are spent mostly in practical and clinical work and the hospital advantages are utilized The Loomis Laboratory a five-story modern building is well equipped and supplies ample practical laboratory facilities required in the advanced work The essential features of the entire system is the division of the classes of the several years into small sections Fees First year $190 second and third $180 each and $200 for the fourth year The Dean is Dr William M Polk Total registration for 1903-4 was 360 graduates 55 The next session opens Sept 28 1904 and closes June 14 1905

University and Bellevue Hospital Medical College—This is a department of the New York University and was founded in 1898 by the union of the New York University Medical College, organized in 1841 and the Bellevue Hospital Medical College organized in 1861 The faculty is composed of 26 professors and 81 instructors assistants etc in all 107 Bellevue and City hospitals hospitals of the Workhouse and Almshouse Manhattan State Hospital for the Insane Willard Parker and Reception hospitals Riverside Hospital for Contagious Diseases Randall s Island Presbyterian St. Luke s St Vincent s General Memorial Gouverneur Columbus Harlem, New York Foundling and the Society for the Lying in hospitals the New York Eye and Ear Infirmary and a large college dispensary are open to students of this school for a study of clinical cases The Carnegie building a five-story structure adjoining the college is devoted to laboratory instruction and investigation and with the other two large college buildings affords good laboratory and lecture room facilities A new six story addition to the laboratory building has just been completed The course of instruction covers four years of eight months each Actual clinical teaching in conjunction with and found on laboratory work recitation and didactic teaching is emphasized to the greatest possible degree. Fees First year $185 second and third $180 each and $195 for the fourth year The Dean is Dr Edward G Janeway Total registration for 1903-4 was 368 graduates 61 The next session opens Sept 29 1904 and closes June 9 1905

New York Homeopathic Medical College and Hospital—This school organized in 1858 has a faculty of 34 professors and 37 lecturers, instructors etc 71 in all Flower Hospital adjoining the college and having a completely equipped out patient department Metropolitan Hospital New York Ophthalmic Hospital and the Laura Franklin Free Hospital for Children also furnish clinical facilities The course covers four years of seven months each Total fees for the first year $130 second $130 third, $125 and $155 for the fourth year The Dean is Dr W H King 64 W 51st St Total students registered for 1903-4 was 118 graduates 28 The next session begins Oct 5 1904 and ends May 11 1905

New York Medical College and Hospital for Women—Homeopathic This school was organized in 1863 and has a faculty of 22 professors 19 lecturers and assistants total 41 The college hospital and dispensary, the Memorial Hospital for Women, Metropolitan Flower and the Laura Franklin Free Hospital for Children afford clinical material The course covers four years of twenty six weeks each Fees First year $155 second $135 third $125 and $155 for the fourth year The Dean is Dr M. Belle Brown 30 W 51st St Total registration for 1903-4 was 33 graduates 5 The next session opens Oct. 3 1904 and closes May 9 1905

Eclectic Medical College of the City of New York—This was organized in 1865 and has a faculty of 15 professors and 18 lecturers demonstrators etc 33 in all A college dispensary Beachonian Dispensary Manhattan and Red Cross hospitals and Muncie Sanatorium supply clinical facilities The work covers four years of seven months each The total fees First year $125 second $125 third $125 and $155 for the fourth year The Dean is Dr George W Boskowitz Total registration for 1903-4 was 95 graduates, 8 The next session opens Sept. 28 1904 and closes May 1905 This school is a member of the National Confederation of Eclectic Medical Colleges.

Albany

Albany Medical College—This school was organized in 1838 and in 1873 it assumed its present relations as Medical Department of Union University The faculty is composed of 15 professors and 47 lecturers instructors and assistants a total of 62 Albany St Peter s Child s and County hospitals South End Dispensary Eye and Ear Infirmary and the Albany Hospital for Incurables also the free dispensaries connected with each are open to students for clinical study The curriculum embraces graded work for four years of seven and one-half months each Teaching is carried on in the laboratories clinics and lecture rooms Examinations are held twice a year in all subjects Fees Third year $110 and $130 for each other year The Dean is Dr Samuel B Ward Total registration for 1903-4 was 173 graduates 41 The next annual session opens Sept 27 1904 and closes May 9 1905

Buffalo

University of Buffalo Medical Department—This was organized in 1846 and has a faculty made up of 48 professors and 31 assistants lecturers etc a total of 79 Buffalo General Hospital Hospital of the Sisters of Charity Erie County and German hospitals and the German Deaconess Hospital supply ample clinical material for study A college dispensary recently organized is also of value in practical work The buildings and hospitals are well equipped for clinical and laboratory work Bedside instruction is insisted on and the senior students are permitted to assist in operations and give anesthetics This school is a member of the Association of American Medical Colleges The course covers four years of seven months each The tuition is $125 each year this does not include laboratory fees The Dean is Dr Matthew D Mann 37 Allen St Total registration for 1903-4 was 243 graduates 54 The fifty ninth session opens Sept. 26 1904 and closes May 2 1905

Syracuse

College of Medicine Syracuse University—This school was organized in 1872 as the Medical Department of Syracuse University The faculty is composed of 16 professors and 33 lecturers instructors etc in all 49 Clinical facilities are furnished by St Joseph s Hospital with a capacity of 200 patients Hospital of the House of the Good Shepherd Syracuse Hospital for Women and Children Onondaga County Orphan Asylum and the Syracuse Free Dispensary The laboratories and amphitheaters are large and well equipped. This school is a member of the Association of American Medical Colleges The curriculum embraces a four years graded course, eight months making a school year The total fees for each of the four years are $130 The Dean is Dr Henry D Didama 424 S Salina St. Total number of students registered for 1903-4 was 131 graduates 31 The next session opens Oct 4 1904 and closes June 7 1905

NORTH CAROLINA.

North Carolina, population 1,893,810, has four medical schools which grant degrees and one which gives only the first two years of the medical course The Medical Department of the University of North Carolina is located at Chapel Hill (population 1 099) and at Raleigh (population 13 643) The Leonard School of Medicine is at Raleigh The North Carolina Medical College is located at Davidson (population 904) and at Charlotte (population 18,000) Wake Forest School of Medicine is at Wake Forest (population 823)

Chapel Hill and Raleigh

University of North Carolina Medical Department —This school was organized in 1891 and formerly gave only the work of the first two college years at Chapel Hill In 1902 the course was extended to four years by the establishment of a department at Raleigh in which the last two years are given Degrees will now be conferred and the faculty in the completed school of medicine numbers 29 It is a member of the Association of American Medical Colleges The number of students enrolled in 1903 4 was 72 graduates, 4 Total fees are $85 per year Board, room, light and heat may be had for from $84 to $102 per college year The President is Dr F P Venable Chapel Hill The next session will begin Sept 5 1904, and end May 31, 1905

Raleigh

Leonard School of Medicine —Colored This department of Shaw University was established in 1882 by the American Baptist Home Mission Society to train colored students of medicine It has a faculty of 11 A free hospital and dispensary supply clinical material A preliminary entrance examination is given to applicants not possessing a certificate or diploma of educational requirements The course covers four years of six months each The total fees for each year are $75 The dormitory plan is adopted generally and board and room costs $2 a week The Dean is Dr James McKee Total enrolment for 1903 4 was 125 graduates 21 Next session opens Oct 1 1904 and closes April 14, 1905

Davidson and Charlotte

North Carolina Medical College —This school was organized in 1893, and has a faculty of 21 The Presbyterian Hospital in Charlotte supplies the clinical facilities The course covers four years of eight months each the last year at Charlotte Fees First three years $85 each and $100 for the fourth year The President is Dr J P Monroe of Davidson Dr J W Faison Charlotte, is Dean of the Faculty The total registration for 1903-4 was 81 graduates 17 The next session begins Sept 7 1904 and closes May 10, 1905

Wake Forest

Wake Forest School of Medicine —This school was organized in 1902 It only gives the first two years of the medical course Each annual course extends over nine months The school is a member of the Association of American Medical Colleges It has a faculty of 10 and last year enrolled 18 students The fees are $85 a year The Dean is Dr Frederick K Cooke The next session opens Aug 27 1904, and closes May 25 1905

OHIO

Ohio, population 4,157,545, has ten medical colleges Four of these, the Medical College of Ohio, Eclectic Medical Institute, Miami Medical College, and Pulte Medical College are located in Cincinnati, a city of 325,902 inhabitants The clinical advantages of Cincinnati are good, beside many smaller hospitals, the Cincinnati Hospital is open to the students for study Board can be procured in Cincinnati for from $3 to $5 per week The Laura Memorial Woman's Medical College has ceased to exist

Cleveland, population 381,768, contains three medical schools Western Reserve University Medical College, Cleveland College of Physicians and Surgeons and the Cleveland Homeopathic Medical College The City Hospital, with 275 beds, is used in common by them for clinical study Board and lodging can be had for from $2 50 to $5 a week

Columbus, population 125,560, contains two Starling Medical College and Ohio Medical University Board and lodging cost from $2 50 to $5 per week

Toledo, with 131,822 people, has one medical school Toledo Medical College It has good clinical advantages Board and room can be had for from $3 to $5 a week

The laws of Ohio require that in order to practice medicine in this state, any student not possessing a diploma or certificate showing that he is possessed of the educational advantages required, must pass a satisfactory examination, under the direction of the State Board of Medical Registration and Examination, in the following subjects Foreign languages—Two years of the Latin language English—English literature, composition and rhetoric History—United States history and civics, with reference to the constitutional phases of American history Mathematics—Algebra through equations and plane geometry Science—Botany or zoology, physiography or chemistry, and physics This is the standard adopted by all the medical colleges in the state

Cincinnati

Medical College of Ohio —This is the Medical Department of the University of Cincinnati organized in 1819 and has a faculty made up of 24 professors 30 lecturers and assistants, a total of 54 Good Samaritan Hospital, with 100 beds Cincinnati Hospital, with 550 beds and a well equipped college dispensary furnish clinical facilities The buildings supply ample laboratory and lecture-room space, and their equipment is good The course of study is graded and covers four years of eight months each This school is a member of the Association of American Medical Colleges The lecture fees are $125 each year for each student entering after July 1, 1903 $100 each year for those who have matriculated prior to July 1 1903 In addition there is a matriculation fee of $5, payable but once, and a graduation fee of $25 Total registration of students for 1903 4 was 145, graduates, 46 The Dean is Dr P S Conner Cincinnati The eighty sixth session begins Sept 28, 1904, and ends June 1, 1905

Miami Medical College —This school was organized in 1852 and has a faculty of 23 professors and 24 lecturers and demonstrators a total of 47 The clinical facilities are furnished by the Cincinnati Hospital and a college dispensary The Presbyterian Hospital, with the Laura Memorial Dispensary, has become a clinical department of the college The undergraduates of the Laura Memorial College will continue their studies in the Miami College This college is a member of the Association of American Medical Colleges The curriculum embraces a four year graded course of eight months each The total fees are for the first year $130 for the second and third $125 and $150 for the fourth year The Dean is Dr J C Oliver 628 Elm St The total registration for 1903 4 was 90 graduates 27 The next session opens Oct. 1, 1904, and closes June 1 1905

Eclectic Medical Institute —This school organized in 1845 has a faculty of 24 members The Seton Hospital, Cincinnati Hospital and a college dispensary furnish clinical material It is a member of the National Confederation of Eclectic Medical Colleges The course covers four years of thirty weeks each The fees are $75 for each year with a graduation fee of $25 The Dean is Dr Rolla L Thomas 792 East McMillan St Total enrolment 1903-4 was 113 graduates 27 The next session begins Sept 19, 1904 and closes April 21 1905

Pulte Medical College —Homeopathic This was organized in 1872 and has a teaching force of 21 professors and 14 assistants 35 in all Pulte Hospital Cincinnati Hospital Bethesda Hospital Home of the Friendless and Foundlings and a college dispensary supply clinical material The curriculum covers four years of seven months each Fees First year $80 for the second and third, $75 each and $100 for the fourth The Dean is Dr Charles E Walton Total enrolment for 1903 4 was 22 graduates 7 The next session opens Sept. 27 1904 and closes May 2, 1905

Cleveland

The Cleveland College of Physicians and Surgeons —This school was organized in 1863 as Charity Hospital Medical College became the Medical Department of Wooster University in 1869 and the Medical Department of the Ohio Wesleyan University in 1896 when it assumed its present title The faculty is composed of 27 professors 36 lecturers assistants instructors etc 63 in all Cleveland General Hospital Cleveland City Hospital and a college dispensary are used for regular clinical teaching St Alexis St John's and St Clair hospitals are utilized for extra mural clinics This school is a member of the Association of American Medical Colleges The school is co-educational The total annual fees are $130 The curriculum covers four years of eight months each The Dean is Dr R E Skeel 785 Prospect St Total enrolment for 1903 4 was 75, graduates 19 The next term opens Sept 21 1904 and closes May 3, 1905

Western Reserve University Medical College —The Medical Department was organized in 1843 Its teaching faculty includes 23 professors 31 lecturers demonstrators and assistants a total of 54 Clinical facilities are offered students of this school by Lakeside Hospital having 250 beds St Vincent's Hospital having about 150 beds City Hospital with 250 beds St Alexis Hospital with 250 beds and the Home of Maternity with the dispensary service at Lakeside and Charity hospitals The laboratory chairs are endowed the teachers devoting their entire time to teaching and research work The new clinical laboratory has recently been added where a systematic course of instruction is given This college is a member of the Association of American Medical Colleges The curriculum embraces four years of eight months each Three years of college work are required for admission to first year of medical course The total fees are $125 for each year The Dean is Dr B L Millikin 278 Prospect St. Total enrolment for 1903-4 was 80 graduates 31 The next session begins Oct 1, 1904 and closes June 15 1905

Cleveland Homeopathic Medical College —This school was founded in 1897 by a consolidation of Cleveland University of Medicine and Cleveland Medical College the former of which was incorporated in 1850 and is the second oldest homeopathic medical college in the United States The faculty includes 32 professors and 41 adjuncts lecturers etc 73 in all The clinical facilities are obtained from the Cleveland Homeopathic Hospital the Cleveland City Hospital, the Cleveland Maternity Hospital and a college dispensary The course embraces four years of thirty weeks each Fees First year, $110, second and third years, $105 each, and $125 for the fourth year The Dean is Dr Gaius J Jones Total number of students registered 1903 4 was 85 graduates 25 The next session opens Sept 18, 1904, and closes May 8, 1905

Columbus.

Ohio Medical University —This school was organized in 1890 and has a faculty of 22 professors, 6 instructors 5 assistants and 2 demontrators 35 in all The Protestant Hospital State Hospital Ohio Penitentiary Hospital and a college dispensary provide material for clinical work This school is a member of the Association of American Medical Colleges The course is four years of 32 weeks each Fees First year $105 second year $100 third year $100, and $110 for the fourth year The Dean is Dr George M Waters Total students for 1903 4 was 168 graduates, 41 The next session begins Sept. 20, 1904, and ends May 4 1905

Starling Medical College —This school was organized in 1847 and has a faculty composed of 20 professors and 16 lecturers associates etc a total of 36 St Francis Hospital which is under the control of this faculty Hawkes' Hospital of Mt Carmel the Lawrence Hospital St Anthony Hospital and a college dispensary are available for clinical study This college is a member of the Association of American Medical Colleges The work covers four years of thirty weeks each Fees $100 per year graduation fee $10 The Dean is Dr Starling Loving Enrolment for 1903 4 was 124 graduates 33. The next session opens Sept 15, 1904 and closes May 4 1905

Toledo

TOLEDO MEDICAL COLLEGE—The school was organized in 1882 and in 1904 became the Medical Department of Toledo University It has a faculty of 15 professors 21 lecturers and assistants in all 36 Toledo Hospital St Vincent s and Robinwood Hospitals, Lucas County Infirmary Hospital Toledo Hospital for the Insane and a free dispensary supply clinical facilities This college is a member of the Association of American Medical Colleges The curriculum embraces four years of eight months each The fees are $75 for each year with a matriculation fee of $5 payable once The Secretary is Dr Mark I Myers 1021 Franklin Ave Total enrolment for 1903 4 was 33 graduates 7 The next session opens Sept 22 1904 and closes May 10 1905

OKLAHOMA.

Oklahoma, population 398,331, has only one medical school, which is located at Norman, a city of about 3,682 inhabitants

Norman

SCHOOL OF MEDICINE UNIVERSITY OF OKLAHOMA—This school which was organized in 1903 teaches only the first two years of the regular medical course each course extending over a period of nine months The total registration for 1903 4 was 9 The Dean is Dr A. H Van Vleet the Registrar Roy Hadsell The next session begins Sept 13 1904 and ends June 10 1905

OREGON

Oregon, population 413,536, has two medical colleges Medical Department Willamette University, located in Salem, a city of 10,000 people, and University of Oregon Medical Department, in Portland, a city of about 125,000 population Board and lodging may be obtained in Salem for from $3 to $5 per week, and in Portland for from $4 to $6

Salem

MEDICAL DEPARTMENT WILLAMETTE UNIVERSITY—The school was organized in 1864 The faculty consists of 16 teachers Clinical facilities for study are supplied by Salem Hospital and a college dispensary This school is a member of the Association of American Medical Colleges The course embraces four years work of six months each Fees First year $110 second $100 third $75 and $50 for the fourth year The Dean is Dr W H Byrd Total enrolment for 1903-4 was 42 graduates 8 The next session begins Oct 1 1904 and ends March 30 1905

Portland

UNIVERSITY OF OREGON MEDICAL DEPARTMENT—This department of the State University was organized in 1887 and has a faculty of 14 professors and 14 assistants lecturers etc a total of 28 Good Samaritan and St. Vincent s hospitals containing 200 and 350 beds, respectively furnish good material for clinical study The requirements for admission are those of the Association of American Medical Colleges but the members of the faculty do not hold examinations for entrance The college building is modern and well equipped presenting ample teaching facilities The course is four years of seven months each Fees First year $142 50 second $137 50 third $107 50 and for the fourth $57 50 The Dean is Dr Simeon E Josephi Portland Total number of students for 1903-4 was 96 graduates 17 The next session opens Sept 15 1904 and closes April 16, 1905

PENNSYLVANIA.

Pennsylvania, population 6,302,115, has seven medical colleges Of these Philadelphia, having a population of 1,293,697, contains six, as follows University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, Medico Chirurgical College of Philadelphia, and Temple College Department of Medicine The clinical facilities of Philadelphia present abundant and varied material for study Beside the individual hospitals connected with each of the schools the charity hospitals are open to all the students in common Board and lodging costs from $4 a week upward

The other school, Western Pennsylvania Medical College, is situated in Pittsburg a city of 321,616 people The cost of board and lodging is from $4 to $6 a week

A preliminary examination is required of all applicants for a license to practice medicine or surgery in the state This examination is held at stated intervals by the state examiners, and includes- (a) English composition, grammar and rhetoric, (b) mathematics, covering algebra and plane geometry, (c) elementary physics, (d) United States history, and (e) Latin equivalent to a year's study On passing a successful examination a medical student certificate is issued to the applicant This certificate will admit the possessor to matriculation in any medical college in the state

Philadelphia

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE.—This is the first medical college established in this country having been organized in 1765 as the Medical Department of the College of Philadelphia the first degree was granted in 1768 When from the College of Philadelphia the University of Pennsylvania was organized in 1791 it became the Medical Department of the University its present relation. The faculty is made up of 30 professors and 92 assistants lecturers etc a total of 122 Abundant and varied clinical material is furnished by the University Hospital capacity 300 beds which treats over 14 000 cases annually University Maternity Pavillion with 50 beds Philadelphia Hospital, containing 1000 beds Pennsylvania Children s and the Southeastern Hospital and Dispensary Special attention is paid to bedside instruction and to thoroughly practical work Applicants for admission must furnish evidence of the education required to enter the academic department of the university The buildings known as Medical Hall Medical Laboratory Building the Laboratory of Hygiene the Laboratories of Pathology Physiology and Pharmacology the Wistar Institute of Anatomy and the Wm Pepper Clinical Laboratory supply excellent laboratory and lecture-room facilities and are well equipped The course embraces study for four years of nine months each The total fees for each year are $200 with a matriculation fee of $5 for the first year The Dean is Dr Charles H Frazier Total enrolment for 1903 4 was 472 graduates 96 The next session opens Sept 30 1904 and closes June 21 1905

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1825 and has a faculty of 28 professors and 81 lecturers demonstrators, etc a total of 109 Jefferson Hospital together with its Maternity Department are used exclusively by students of the school for clinical study Bedside instruction is given daily to small sections of the senior class In addition, the following hospitals are open for study of clinical cases Pennsylvania Philadelphia St Joseph's German Municipal and Wills Eye hospitals The course of study covers graded work of four years of eight months each The laboratories are large and well equipped a new five-story laboratory building having recently been added the lecture rooms and amphitheaters are also ample A new fireproof hospital is now building to cost $850 000 to be finished in 1905 The tuition is $180 a year with a matriculation fee of $5 paid but once. The Dean is Dr James W Holland The total number of students for 1903-4 was 732 graduates 165 The next session opens Sept. 26 1904 and closes June 2 1905

MEDICO CHIRURGICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1881 and has a faculty made up of 27 professors and 55 assistants lecturers etc 82 in all Opportunities for clinical study are offered exclusively to students of this school by the Medico Chirurgical Hospital with 125 beds and its children s and maternity hospital having 30 beds In common with other schools the following are used Philadelphia. Pennsylvania German Samaritan St Joseph s St Agnes St Mary s, Methodist, Jewish and the Philadelphia Lying in hospitals This school is a member of the Association of American Medical Colleges With new laboratories lecture rooms a modern hospital and fine clinical amphitheater this college is amply provided and the equipment is good The work embraces four years of eight months each Fees $150 per annum matriculation $5 payable once The Dean is Dr Seneca Egbert. Total enrolment 1903-4 was 414 graduates 70 The next session opens Sept 28 1904 and will close May 28 1905

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—This school was organized in 1850 and has a faculty of 10 professors and 38 assistants lecturers etc. in all 48 Clinical facilities are offered exclusively to this college by the Woman s Hospital and West Philadelphia Hospital for Women Other clinical advantages offered are those of the Pennsylvania German Jewish Children s and Philadelphia hospitals Wills Hospital for Diseases of the Eye and the Philadelphia Lying in Charity This school is a member of the Association of American Medical Colleges The lecture room and laboratory equipment is good The curriculum covers four years of eight months each Fees First year $140 second, $145 third, $135 50 and $100 50 for the fourth year The Dean is Dr Clara Marshall Total enrolment for 1903-4 was 159 graduates, 43 The fifty fifth session begins Sept 21 1904, and will end May 18 1905

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.—Homeopathic This was organized in 1848 and has a faculty of 16 professors and 40 lecturers instructors etc in all 56 Hahnemann College Hospital and Pennsylvania Hospital furnish material for clinical work The requirements for admission are those established by the Intercollegiate Committee of the American Institute of Homeopathy The work covers four years of thirty two weeks each Fees For each year $150 matriculation $5 Total number of students for 1903-4 was 201 graduates 69 The Dean is Dr Charles M Thomas The next session begins Sept 26 1904, and will end May 24 1905

MEDICAL DEPARTMENT OF THE TEMPLE COLLEGE—This department was organized in 1001 and has a faculty of 18 professors and 22 assistants, etc a total of 40 Instruction is given in the afternoon and evening and the course extends over five years of nine months each The fees are $125 per year The Dean is Dr I Newton Snively The enrolment for 1903-4 was 63 graduates 2 The next session begins Sept. 14 1904 and ends June 15 1905

Pittsburg

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This is the Medical Department of the Western University of Pennsylvania and was organized in 1886 The faculty is composed of 38 professors and 54 associates, assistants, etc 92 in all Clinical material for study is furnished by a college dispensary and the Emma Kaufman Clinic Reineman Maternity Hospital Mercy South Side Passavant and St. John s hospitals This school is a member of the Association of American Medical Colleges. The course of study embraces graded work for four years of nine months each Special attention is given to practical bedside work The total fees are $150 for each year The Dean is Dr J C Lange. Total enrolment for 1903-4 was 259 graduates, 51 The next session begins Oct. 1 1904 and will close June 1905

SOUTH CAROLINA

South Carolina, population 1,340,316, has one medical college, situated in Charleston, a city of 55,807 people Board and room can be obtained for from $12 to $16 a month

Charleston

The Medical College of the State of South Carolina—This was founded in 1823 The faculty is made up of 9 professors and 10 assistants etc 19 in all The clinical facilities are those offered by the City Hospital where surgical, obstetrical and medical instruction is given Applicants for matriculation must show a diploma of graduation from some literary or scientific institution of learning or a certificate from some legally constituted high school The course covers four years of six months each The total fees for each of the first two years are $100, and $75 each for the last two The Dean is Dr Francis L Parker Total enrolment for 1903 4 was 91 graduates, 23 The next session opens Oct 1 1904 and closes April 5, 1905

TENNESSEE

Tennessee, population 2,020,616, has twelve medical colleges Of these the Medical Department of the University of Nashville, Vanderbilt University Medical Department, University of Tennessee Medical Department, Meharry Medical College and Southwestern Presbyterian University Medical Department are situated in Nashville, a city with a populuation of 80,865 The City Hospital, containing 100 beds, is used by all the schools in common for clinical study Board and lodging cost from $3 to $4 a week

Knoxville, population 32,637, contains two colleges, Tennessee Medical College and Knoxville Medical College The cost of room and board in that city is from $2 50 to $4 a week

Chattanooga Medical College and Chattanooga National Medical College are situated in Chattanooga, city of 30,154 people Board and lodging cost there from $2 a week upward

Memphis Hospital Medical College is located in the growing city of Memphis, population 102,320 Good board can be obtained for from $3 to $4 a week

The University of West Tennessee is in Jackson, whose population is 15,000

The other school, the Sewanee Medical College is located at Sewanee a mountain town of 1,200 people

Nashville

University of Nashville Medical Department—This school established in 1850 has a faculty of 13 professors and 14 lecturers assistants etc in all 27 This school is a member of the Southern Medical College Association *The course of study covers four* years of twenty six weeks each The total fees for each of the four years is $65 The Dean is Dr William G Ewing Total en*rolment for* 1903-4 was 301 graduates 41 The next session begins Oct 1 1904 and ends June 30 1905

Vanderbilt University Medical Department—This school was founded in 1874 and in 1895 when *the present medical building* was completed the course was extended *the standard raised* and the present faculty of 35 consisting of 18 professors and 17 associates lecturers etc was *appointed* The school is a member of the Southern Medical College Association The course covers four years of six months each The total fees for the first three years are $105 each and $130 for the fourth year The Dean is Dr William L Dudley Total enrolment for 1902 3 was 168 graduates 34 The next session begins Oct 3 1904 and ends April 1905

University of Tennessee Medical Department—This was organized in 1876 as the Nashville Medical College Its present relations were assumed in 1879 The faculty is composed of 14 professors and 14 lecturers assistants etc 28 in all The school is a member of the Southern Medical College Association The course of study includes work for four years of six months each The total fees for each of the first three years are $90 and $65 for the fourth year The Dean is Dr Paul F Eve 614 Broad St Total enrolment for 1903 4 was 154 students graduates 30 The next session begins Oct 3 1904 and ends April 1905

Meharry Medical College—Colored This school was organized in 1876 as the Medical Department of Central Tennessee College now Walden University for the purpose of furnishing to the colored people of the South an opportunity of obtaining a *medical* education ' The faculty is made up of 10 professors and 11 instructors demonstrators etc 21 in all The work embraces a four year graded course six months to the year *The total fees for* the first three years are $40 each and $50 for the fourth year The Dean is Dr G W Hubbard Total registration for 1903 4 was 287, graduates 57 The twenty ninth session begins Sept 1 1904 and ends March 1, 1905

Southwestern Presbyterian University Medical Department—This department was established a year ago Dr J W Brandau is Dean and about sixteen members of the faculty were chosen No further steps have been taken toward beginning work and the probability is *that nothing will ever be done*

Knoxville

Tennessee Medical College—This school was organized in 1889, and has a *faculty of 13 professors* and 7 assistants 20 in all A new building with large and well fitted laboratories has been completed City General Hospital and a free dispensary supply material for study of clinical cases This school is a member of the Southern Medical College Association The curriculum includes graded work for four years of seven months each Fees Matriculation, $5 annual fee $50, graduation fee $25 The Secretary is Dr S L Jones *Total* number of students for 1903 4 was 87, graduates 10 The sixteenth session begins Nov 1, 1904 and closes May 23, 1905

Knoxville Medical College—Colored. This school was established in 1900 *following* the discontinuance *of* the Medical Department of Knoxville College, organized in 1895 The teaching force comprises 21 The course covers four years of six months each Fees First year $42 second $37, third, $30, and $40 for the fourth year The Secretary is Dr H M Green Total number *of students for 1903-4* was 30 graduates 8 The next session opens Dec 1 1904, and closes May 30 1905

Chattanooga

Chattanooga Medical College—This is the Medical Department of Grant University, and was organized in 1889 The faculty consists of 10 professors and 18 instructors demonstrators etc, total 28 Adequate *clinical facilities are afforded by the* wards of Baroness Erlanger Hospital a county asylum, an outdoor clinic maintained in the college building and all material furnished by the city physician s office which the faculty desire to utilize The scholastic requirements are those of the Association *of Southern Medical Colleges and involve* a strictly graded course covering four years of six months each The total fees approximate $60 each session The trustees materially added to the general *facilities of* the institution *by the erection of* another fine four story building of brick and stone for the medical department about a year ago wherein much modern and elaborate equipment has been installed The Dean is Dr E A Corleigh The *total* enrolment for the session of 1903 4 was 164, of which 37 graduated The sixteenth annual term opens Oct 6 1904 and ends about April 15 1905

Chattanooga National Medical College.—Colored This was organized in 1898 and claims a teaching force of 19 The course covers four years of seven and a half months each *The total fees* are $50 each year with an additional graduation fee of $20 Total enrolment for 1903 4 was 9 graduates 1 The Dean is Dr T W Haigler 602 E 8th St The next session begins Sept. 2, 1904 and ends April 28 1905

Memphis

Memphis Hospital Medical College—This school organized in 1878 has a *faculty of 10 professors and 18 assistants* beside quiz masters Excellent clinical facilities are furnished by the City Hospital Presbyterian Hospital St Joseph s Hospital and the *East End Dispensary* the latter being located in the college building The course includes graded work for four years of six months each The total fees for the first three years are $65 for the fourth $90 The Dean is Dr W B Rogers Total registration for 1903 4 was 566 graduates 153 The twenty fifth annual session will begin Oct 1, 1904, and close April 30 1905

Jackson

Medical Department of the University of West Tennessee *—Colored* This school organized in 1900 has a *faculty of* 11 The course is four years of seven months each The fees are $40 per year graduation, $10 extra. Registration 1903 4 35 graduates 13 The next session opens Sept 12 1904

Sewanee

Medical Department of the University of the South (Sewanee Medical College)—This school was organized in 1891 and has a faculty of 22 It is a member of the Southern Medical College Association The course is *four years of six months* each The fees are $65 for each of the first two years $55 for the third and $80 for the last year The Dean is Dr John S Cain Total enrolment for 1903 4 was 148 graduates 24 The thirteenth session commenced April 1904, and will close October 25 1904

TEXAS

Texas, population 3,048,710, has eight *medical* colleges The University of Texas *Department of Medicine* is *located* at Galveston, a city of 37,789 *inhabitants* Good board and room can be procured *for from $15 to $20* a month

The Medical Department of Fort Worth University is at Fort Worth, population 35,000 The cost of board and room in that city is *from $12 to $15* a month

The Baylor University College of Medicine, the Dallas Medical College, the Medical Department of Southwestern University and the Physio Medical College of Texas are situated in *Dallas, population* 55,000

Galveston.

University of Texas Medical Department—This department of the State University was *organized* in 1891 and has a faculty of 26 The John Sealy Hospital also having an outdoor department and St Mary's Infirmary supply good material for clinical study The requirements for admission are proof, either by certificate or examination that the candidate is *sufficiently proficient* in English including grammar composition and rhetoric mathematics through plane geometry and algebra including quadratics and general history The curriculum embraces graded work for four years of eight months each Laboratories of chemistry, physiology anatomy, pathology bacteriology histology pharmacy *and clinical* medicine, *completely* equipped for practical work by students Fees to residents of the state First year $50, second and third, each $20 and $5 for the fourth Non residents *of* the state are required to pay an additional fee of $30 each year The President is Dr William L Prather Total registration for 1903-4 was 172 graduates, 23 The next sess*ion* begins Oct 3 1904 and ends May 31 *1905*

Ft Worth.

Medical Department of Fort Worth University —This school was organized in 1894 and has a faculty of 15 professors and 17 lecturers, assistants etc in all 32 Clinical facilities are supplied by St Joseph s Hospital with 200 beds the Benevolent Home containing 75 beds the Delia Collins Rescue Home having 50 beds and a college dispensary The school is a member of the Southern Medical College Association The course covers four years of six months each The total fees for each of the first three years are $75 and $100 for the fourth year The Dean is Dr Bacon Saunders The total enrolment for 1903-4 was 106 graduates 9 The next session opens Oct 1 1904 and closes April 7 1905

Dallas.

Baylor University College of Medicine —This is a new name for the University of Dallas Medical Department which was organized in 1901 In June 1903 it became the Medical Department of Baylor University at Waco The faculty numbers 14 professors and 16 assistants, total 30 Parkland Hospital with 90 beds St Paul s Sanitarium Baptist Memorial Hospital and a college dispensary and hospital are utilized for clinical study The course covers four years of six months each The school is a member of the Association of Southern Medical Colleges The fees are $75 for each of the four years with a matriculation fee of $5 paid once and a graduation fee of $25 The Dean is Dr E H Cary Total registration for 1903 4 was 68 graduates, 12 The next session opens Oct 1 1904, and closes April 5 1905

Bell Medical College —This school was founded in 1903 by Dr Arthur C Bell its present Dean It has a total teaching staff of 15 The course of instruction extends over four years of six months each The requirements for admission are the same as those prescribed by the Association of Southern Medical Colleges. Clinical instruction is given in the City Hospital St Paul Sanitarium and the college dispensary The fees for the first three years are $80 and $105 for the fourth year Total registration for 1903-4 72 graduates 9 The next session begins Oct 3 1904 and closes April 1 1905

Dallas Medical College —This school was the Medical Department of Trinity University but this relation has been severed It has a teaching staff of 9 professors and 21 lecturers and demonstrators a total of 30 The course covers four years of six months each The Dean is Dr Hugh L McNew Total registration for 1903 4 was 252 graduates 2 The next session opens about Oct. 1 1904 and closes about April 1 1905

Physio Medical College of Texas —This college was organized in 1902 It has a faculty of 24 professors and 4 assistants total 28 The course is four years of twenty six weeks each The fees are, first year $70 fourth year $85 other years $65 Enrolment 1903 4 21 no graduates The Secretary is Dr R I Spann The next session opens Nov 1 1904 and closes about April 1 1905

Southwestern University Medical College.—This is the Medical Department of Southwestern University and was organized in June, 1903 It has a faculty of 31 professors and 8 instructors total 39 The course of instruction is graded and covers four years Requirements for admission are equivalent to those prescribed by the Association of American Medical Colleges The fees are Matriculation $5 paid once annual tuition $75 graduation $25 The hospitals represented by the faculty and open for clinical teaching are St Paul s Sanitarium City Hospital Children's Home, Rescue Home Woman s Home St Joseph Orphanage St Matthew s Home for Children Dr H K Leake s Private Infirmary Out Door Clinic of the Settlement Home and Presbyterian Home for Children The Dean is Dr John O Mc Reynolds Total registration 1903 4 was 38 graduates 11 The second session opens Oct 1 1903 and closes April 3 1905

Texarkana

Gate City Medical College —The length of each course is seven months The faculty numbers 20 professors and assistants Registration 1903-4 84 graduates 26 The Dean is Dr J W Decker The next session begins Oct. 1 1904 and ends May 1 1905

VERMONT

Vermont, population 343,641, has one medical school located at Burlington, a town of about 20,000 people Board and room costs from $3 50 to $5 a week

Burlington

Medical Department University of Vermont —This school was organized in 1822 but suspended from 1836 until 1854 when it was reorganized The faculty consists of 19 professors and 23 assistants instructors etc in all 42 The Mary Fletcher Hospital and a free dispensary furnish material for clinical instruction. Applicants for admission must be graduates of a four year high school course or take an examination to show equivalent educational qualifications The laboratory and lecture-room space and equipment are good A new and commodious college building is in process of construction The course of study embraces graded work for four years of seven months each The total fees for each of the first three years are $115 and $140 for the fourth year The Dean is Dr H C Tinkham Secretary Dr B J Andrews. Total registration of students for 1903-4 was 225 graduates, 55 The fifty second session begins Nov 26 1904 and ends June 28 1905

VIRGINIA.

Virginia, population 1,854,184, has three medical colleges, situated in Charlottesville (population 6,449) and Richmond (population 85,050) The clinical facilities in Richmond are good Board and room can be obtained for $18 a month and upward, in Charlottesville and from $12 to $20 a month in Richmond

Charlottesville

University of Virginia Department of Medicine.—This school was organized in 1827 and has a faculty of 21 A free dispensary and the new four story hospital—an addition to which at a cost of $3,600 will be complete by Jan 1 1905 —furnish clinical facilities The requirements for admission are those of the Association of American Medical Colleges The course is four years of nine months each Fees First year $110 second $100 third, $80, and $60 for the fourth year Total enrolment for 1903 4 was 164 graduates 31 The eightieth session opens Sept 15 1904 and closes June 15 1905

Richmond.

Medical College of Virginia —This school was organized in 1838 as the Medical Department of Hampden Sidney College and in 1854 the present name was assumed The faculty is made up of 17 professors and 26 lecturers instructors etc a total of 43 Clinical material is furnished by the Memorial Hospital and the City Free Dispensary an outside obstetric department also furnishes opportunities for clinical work The magnificent new Memorial Hospital opened July 1903 is under the exclusive control of this college for clinical purposes The State Penitentiary City Almshouse and other public charities and asylums of the city also afford opportunities for clinical work This school is a member of the Southern Medical College Association The buildings are large and contain well equipped laboratories and amphitheaters The course embraces four years of nearly eight months each The fees are $85 for each year with an additional graduation fee of $30 The Dean is Dr Christopher Tompkins Total registration for 1903-4 was 219 graduates 41 The next session begins Sept. 27, 1904 and will end May 16 1905

University College of Medicine —This school was organized in 1893 and has a faculty of 19 professors 34 lecturers assistants, etc a total of 53 Good clinical facilities are furnished by Virginia Hospital with a maternity department and annex, which was built especially for the purpose of affording bedside instruction and is owned and operated by the college Richmond Eye, Ear and Throat Infirmary containing 34 beds the City Hospital City Jail State Penitentiary and a college dispensary Matriculation is in accord with the rules of the Association of American Medical Colleges and of the Southern Medical College Association to both of which this college belongs The laboratory and lecture-room space and equipment are ample, and some of the instructors devote their entire time to the laboratories The school lays especial importance on the careful instruction and guidance of each student The curriculum covers four years of thirty three weeks each The total fees are $85 for each year The President is Dr J Allison Hodges the Dean is Dr Landon B Edwards, Richmond Total enrolment for 1903 4 was 188 graduates 25 The next session begins Sept 27 1904 and ends May 17, 1905

WEST VIRGINIA

West Virginia, population 958,800, has one medical college, the Medical Department of the West Virginia University, located at Morgantown, a city with 2,100 inhabitants This school does not grant degrees, but prepares students in the first two years

Morgantown.

West Virginia University Medical Department —This school was organized one year ago and gives only the first two years of the medical course. Each college term extends over nine months The faculty consists of 6 professors and 2 assistants 8 in all The school is a member of the Association of American Medical Colleges. Dr J M. Simpson is the Dean and Dr A J Collett the Secretary Total registration in 1903-4 was 23 Next session begins Sept. 19 1904 and closes June 15 1905

WISCONSIN

Wisconsin, population 2,069,042, has two medical colleges, the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons They are both situated in Milwaukee, a city of 300,000 people Clinical facilities are furnished them in common by the County Hospital, with 300 beds, and the Milwaukee Hospital for the Insane Board and lodging can be had for from $3 to $5 a week

Milwaukee

Milwaukee Medical College.—This school was organized in 1893 and has a faculty of 33 professors and 26 lecturers instructors etc a total of 59 Good clinical material is furnished by Trinity and the County hospitals Milwaukee Hospital for the Insane and a college dispensary This school is a member of the Association of American Medical Colleges. Ample laboratory and amphitheater facilities are afforded The course covers four years of eight months each The total fees are $125 each for the first three years and $135 for the fourth year The President is Dr William H Earles Total number of students for 1903 4 was 148 graduates 29 The eleventh session begins Sept 15 1904 and will close about May 22 1905

Wisconsin College of Physicians and Surgeons —This college was organized in 1893 and has a faculty composed of 21 professors and 29 associates assistants etc. a total of 50 St. Joseph s Hospital containing 150 beds the college dispensary the Milwaukee County Hospital and the Hospital for the Insane supply facilities for clinical study The school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are well equipped The curriculum includes four years of eight months each Fees Matriculation paid once $5 general ticket, $100, for the use of the microscope a fee of $2 is charged for each course The Secretary is Dr W H Washburn Total enrolment for 1903 4 was 86 graduates 29 The next session begins Sept 20 1904 and ends May 18, 1905

CANADA

The Dominion of Canada, with a population of 5,335,055 (1900) distributed through seven provinces and the Northwest territories, an area which reaches from the Atlantic to the Pacific, contains only 9 medical colleges Of these, 4 are situated in Ontario, 4 in the province of Quebec, 2 in Nova Scotia and one in Manitoba The distinction between university and college in Canada is definite, namely, the latter is a teaching body only and has no right to grant a degree

London, Ontario

Medical Department of Western University —This school matriculates students in accordance with the requirements of the Provincial Council and has a course of four years Victoria Hospital and St Joseph s Hospital supply the clinical advantages The fees are about $90 per year and $25 extra for graduation with $5 for each examination each year This school has over 100 students and from 10 to 20 graduates annually The next session runs from September to May

Kingston, Ontario

Queen's University —This school had 216 students registered in its medical department during 1903 4 and graduated 42 The faculty numbers 25

Toronto, Ontario

University of Toronto Medical Faculty —All the lectures and demonstrations are given in the laboratories and lecture rooms of the University, more than two thirds of the instruction in the third and fourth years is given in the wards and in the pathologic and clinical laboratories A fifth year is now required by the Ontario Medical Council The faculty numbers 88 Clinical instruction is given in the Toronto General Hospital Mercer Eye and Ear Infirmary Burnside Lying In Hospital Hospital for Sick Children and St. Michael s Hospital Before commencing students who propose to practice in the Province of Ontario must satisfy as to qualifications the College of Physicians and Surgeons of Ontario (Provincial Board) but those who desire the degree of the university must obtain junior matriculation standing prior to admission to the second examination Fees are Registration (payable once) $5 each of the first four years $100 fifth year $50 for the degree M B and M.D each $20 Number of students registered last session, 721 graduates 90 The next session will commence Oct 1 1904 Trinity Medical College of Toronto which has been in affiliation was amalgamated with the university in 1903

Ontario Medical College for Women —This college is not empowered to grant degrees but it qualifies students fully to take the examination in any university The faculty numbers 35 The fee for each year is $110 exclusive of hospital and university fees The number of undergraduates 1903 4 was 31 graduates 4 Twenty first session will open Oct 1 1904 and continue for eight months

Montreal, Quebec

McGill University, Faculty of Medicine —This college has a course of four years of nine months each The faculty numbers 24 professors and 66 assistants total 90 The total fees for the course are $500 Clinical instruction is given in the Montreal General Hospital Royal Victoria Hospital and Montreal Maternity Hospital Students except university graduates in arts must pass the medical matriculation of this university or that of one of the provincial medical boards Students registered during session 1903 4 415 graduates in June 1904 86 The seventy third session will commence Sept 20 1904

University of Bishop s College Faculty of Medicine —The course leading to the degree of C M M D extends over four years of nine months each The annual fees are $100 which include all practical classes and material for the same Students must on entering the study of medicine pass the college matriculation examination or if the license for the Province of Quebec is desired that of the College of Physicians and Surgeons of that Province Special facilities are offered for the practical teaching of obstetrics and undergraduates are obliged to take entire charge of several accouchements before being allowed to take the final examination Other clinical facilities are offered in the Montreal General Hospital, the Royal Victoria Hospital the Western Hospital the Hotel Dieu and the Woman s Hospital During the last session the students numbered 70 graduates 10 The next session will open Sept 15 1904

Quebec, P Q

University Laval Faculte de Medicine —This is the Quebec branch of Laval University medical faculty The course consists of four years The fees for the entire course are from $200 to $300 according to preliminary qualifications The matriculants are about 100 annually and the graduates about 20

Halifax, Nova Scotia

Faculty of Medicine of Dalhousie University —The course consists of four years of eight months each and leads to the final M.D and C M examination Prospective students must pass the preliminary examination of the Provincial Medical Board a university examination or a recognized equivalent During last session (1903 4) there were 58 students of whom 17 graduated The faculty numbers 23 and the next session is from September to April (inclusive)

Winnipeg, Manitoba

Manitoba Medical College —This is in affiliation with the University of Manitoba and has a faculty of 21 Winnipeg General Hospital and St Boniface Hospital supply clinical material The fees are $400 for the course of four years There were 108 students in 1903 4, and 15 graduates

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THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The requirements for admission to be maintained by colleges belonging to this Association are as follows

Section 1 —Each college holding membership in this Association shall require of each student, before admission to its course of study, an examination, the minimum of which shall be as follows

1 In English, a composition on some subject of general interest This composition must be written by the student at the time of the examination, and should contain at least 200 words It should be criticised in relation to thought, construction, punctuation, spelling, and handwriting

2 In Arithmetic, such questions as will show a thorough knowledge of common and decimal fractions, compound numbers, and ratio and proportion

3 In Algebra, such questions as will bring out the student's knowledge of the fundamental operations, factoring, and simple quadratic equations

4 In Physics, such questions as will discover the student's understanding of the elements of mechanics, hydrostatics, hydraulics, optics, and acoustics

5 In Latin, an examination on such elementary work as the student may offer, showing a familiarity usually attained by one year of study, for example, the reading of the first 15 chapters of Cæsar's Commentaries, and the translation into Latin of easy English sentences involving the same vocabulary

Sec 2 —In place of this examination, or any part of it, colleges, members of this Association, are at liberty to recognize the official certificates of reputable literary and scientific colleges, academies, high schools, and normal schools, and also the medical student's certificate issued by any state examining board covering the work of the foregoing entrance examination

Sec 3 —Colleges, members of this Association, may allow students who fail in one or more branches in this entrance examination the privilege of entering the first year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied

Sec 4 —Colleges, members of this Assocoiation, are free to honor official credentials issued by medical colleges of equal requirements, except in the branches of study embraced in the last year of their own curriculum

Sec 5 —Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least four courses of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year

Sec 6 —Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional credit for time on the four years' course as follows (a) To students having the A B, B S, or equivalent degree from reputable literary colleges, one year of time, (b) To graduates and students of colleges, of homeopathic or eclectic medicine, as many years as they attended those colleges, provided they have met the previous requirements of the Association and that they pass an examination in materia medica and therapeutics, (c) To graduates of reputable colleges of dentistry, pharmacy, and veterinary medicine, one year of time

Sec 7 —A college not giving the whole four courses of the medical curriculum, and not graduating students, but otherwise eligible, may be admitted to membership

At the last meeting of this Association new regulations were adopted After July 1, 1905, matriculants must have a diploma from a four year high school or an equivalent education Full particulars were given in The Journal, July 25, page 274

The following colleges are members

College of Medicine, University of Southern California, Los Angeles Cal University of California Medical Department, San Francisco, Cal Colorado School of Medicine University of Colorado Boulder Colo Denver and Gross College of Medicine Medical Department of the University of Denver Denver Colo Yale University Department of Medicine (Yale Medical School) New Haven Conn Columbian University Department of Medicine Washington D C Georgetown University School of Medicine Washington D C Howard University Medical Department Washington D C American Medical Missionary College Battle Creek Mich and Chicago College of Physicians and Surgeons College of Medicine of the University of Illinois Chicago Illinois Medical College Chicago Northwestern University Medical School Chicago Rush Medical College (in affiliation with University of Chicago) Chicago Fort Wayne College of Medicine Ft Wayne Ind Central College of Physicians and Surgeons Indianapolis Ind Medical College of Indiana University of Indianapolis Ind Drake University College of Medicine Des Moines Iowa College of Medicine University of Iowa Iowa City Iowa Keokuk Medical College College of Physicians and Surgeons Keokuk Iowa Sioux City College of Medicine, Sioux City Iowa Kansas Medical College Medical Department of Washburne College Topeka Kan School of Medicine University of Kansas Lawrence Kan • Hospital College of Medicine Louisville Ky Kentucky School of Medicine Louisville Ky Kentucky University Medical Department Louisville Ky Flint Medical College Medical Department New Orleans University New Orleans, La Baltimore Medical College Baltimore Md College of Physicians and Surgeons Baltimore Md Johns Hopkins University Medical Department Baltimore Md University of Maryland School of Medicine Baltimore Md Woman s Medical College Baltimore Md College of Physicians and Surgeons Boston Mass Detroit College of Medicine Detroit Mich Michigan College of Medicine and Surgery Detroit Mich University of Michigan Department of Medicine and Surgery Ann Arbor Mich Hamline University College of Medicine Minneapolis Minn College of Medicine and Surgery of the University of Minnesota Minneapolis Minn Medical Department University of Mississippi Oxford Miss. University of Missouri Department of Medicine Columbia Mo Kansas City Medical College Kansas City Mo University Medical College Kansas City Mo Marion Sims Beaumont College of Medicine Medical Department St Louis University St Louis Mo St Louis College of Physicians and Surgeons St Louis Mo Jno A Creighton Medical College Medical Department of Creighton University Omaha Neb University of Nebraska College of Medicine Lincoln and Omaha Neb University of Buffalo Medical Department Buffalo N Y Syracuse University College of Medicine Syracuse N Y University of North Carolina Medical Department Raleigh and Chapel Hill N C Wake Forest College School of Medicine Wake Forest, N C Medical College of Ohio Medical Department University of Cincinnati Cincinnati Ohio Miami Medical College Cincinnati Ohio Cleveland College of Physicians and Surgeons Medical Department Ohio Wesleyan University Cleveland Ohio Western Reserve University Medical College Cleveland Ohio Ohio Medical University Columbus Ohio Starling Medical College Columbus Ohio Toledo Medical College Toledo Ohio University of Oregon Medical Department Portland Ore Willamette University Medical Department Salem Ore Medico Chirurgical College of Philadelphia Philadelphia Woman s Medical College of Pennsylvania Philadelphia Pa Western Pennsylvania Medical College Medical Department Western University of Pennsylvania Meharry Medical College Medical Department Walden University Nashville Tenn University College of Medicine Richmond West Virginia University Medical Department Morgantown W Va Milwaukee Medical College Milwaukee Wis Wisconsin College of Physicians and Surgeons Milwaukee, Wis

The secretary treasurer of the Association is Dr Fred C Zapffe 1764 Lexington St Chicago

SOUTHERN MEDICAL COLLEGE ASSOCIATION

The requirements for admission to the freshman year are exacted by the colleges belonging to this association

Art IV Sec 3 He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate from some legally constituted high school, general superintendent of state education, or superintendent of some county board of public education, attesting that he has been regularly examined and is possessed of at least the educational attainments required of first grade teachers of public schools, or a certificate that he has passed the entrance examination to a University A student may be given one month from the date of his admission to submit his certificate of qualification, and if he fails to possess the requisite educational qualifications in one or more branches, he may matriculate and attend his first course of lectures, but must present the requisite certificate before matriculating in the second course, and all tickets or certificates issued in such cases must have the conditions printed plainly on the face of each

A candidate for graduation (among other provisions), "must have attended, in a regular and reputable medical college, four full courses of lectures, of not less than six months (26 weeks) each, in four separate years, which is construed to mean that no two courses shall either commence or close in the same calendar year—that is, between January 1 and the ensuing December 31" (Art VI, Sec 2)

The following colleges are members

Medical Department University of Tennesesee Nashville, Tenn Medical Department University of Nashville Nashville, Tenn., Medical Department University of the South, Sewanee Tenn Medical Department Vanderbilt University Nashville Tenn. Medical Department Fort Worth University, Fort Worth Texas Medical College of Virginia Richmond Va Tennessee Medical College Knoxville Tenn Medical College of Alabama, Mobile, Ala Birmingham Medical College, Birmingham Ala. University College of Medicine Richmond, Va Medical Department Baylor University, Dallas Texas, Medical Department University of Mississippi, Oxford Miss

The secretary treasurer is Dr G C Savage, Nashville, Tenn

NATIONAL CONFEDERATION OF ECLECTIC MEDICAL COLLEGES

The following are the present minimum requirements for admission to colleges members of this association

1 Good English education, to be attested by (a) first grade teacher's certificate, or (b) a diploma from a graded high school, or literary or scientific college or university, or (c) regents medical students certificate, or (d) entrance examination covering a good English education including an elementary knowledge of natural history, physics and Latin

2 Graduates from pharmaceutical, dental, and veterinary colleges may be allowed one year's time on a four year medical course, only on condition that they comply with the entrance requirements, and pass all examinations and perform all laboratory work embraced in the course of study of the Freshman year One year's advanced standing may be given students with degrees from a recognized literary college

3 The course of instruction shall consist of a four year graded course or its equivalent, as herein prescribed, including four sessions of six months each in four different calendar years

The following colleges are members of this confederation

American Medical College St Louis Mo Bennett College of Eclectic Medicine and Surgery Chicago Ill California Medical College, San Francisco Cal Eclectic Medical College of the City of New York New York N Y Eclectic Medical Institute Cincinnati Ohio Georgia College of Eclectic Medicine and Surgery Atlanta Ga Lincoln Medical College Lincoln Neb Kansas City Eclectic Medical University Kansas City Mo

The secretary treasurer is John K Scudder, M.D, 1009 Plum St, Cincinnati, Ohio

AMERICAN INSTITUTE OF HOMEOPATHY

The minimum requirements for entrance into the freshman class of all homeopathic medical colleges, as adopted in 1901, are, with abbreviation, as follows

1 English Composition Exercise on assigned theme, not less than 200 words Exercise in reading Exercise in correction of ungrammatical sentences

2 Mathematics Arithmetical exercises in (a) vulgar fractions, (b) decimals, (c) percentage, (d) proportion, (e) square and cube root, (f) weights and measures, (g) decimal system Mensuration (a) Definition of terms, (b) exercises under the more fundamental rules

3 Geography (general facts about North America)

4 History General, with particular reference to human progress in art, science and letters (The examination to avoid exact dates and minor details)

5 Latin Language (a) Grammar, (b) four books of Cæsar, or its equivalent

The colleges recognized as in good standing by this organization are Hahnemann Medical College of the Pacific, Denver Homeopathic Medical College, Hahnemann Medical College, Chicago, Chicago Homeopathic Medical College, Hering Medical College, Homeopathic Medical Department of the State University of Iowa, Southwestern Homeopathic College, Kansas City Hahnemann Medical College, Southern Homeopathic Medical College, Boston University School of Medicine, Homeopathic Medical College of University of Michigan, College of Homeopathic Medicine and Surgery of University of Minnesota, Homeopathic Medical College of Missouri, New York Homeopathic Medical College, New York Medical College for Women, Cleveland Homeopathic Medical College, Pulte Medical College, Hahnemann Medical College of Philadelphia

The secretary is Dr Chas Gatchell 100 State St Chicago

Name of College	Estimated population of city in which college is located	No. of students registered session of 1903-1904		Graduates 1904		Total number of teachers	Number of weeks in college year	Total graduates in all colleges in state 1904	Total students in all colleges in state 1903-4
		Men	Women	Men	Women				
ALABAMA								43	271
Birmingham Medical College —R	38 000	104		5		29	26		
Medical College of Alabama —R	"	107		38		21	26		
ARKANSAS								19	115
Medical Department Arkansas University —R	60,000	112	3	10		35	25		
CALIFORNIA								140	628
Cooper Medical College —R	100,000	159	34	38	6	61	38		
Medical Department University of California —R		100	13	24	3	70	39		
California Medical College —E	"	38	9	7	1	35	32		
Hahnemann Medical College of the Pacific —H		27	6	6	2	42	28		
College of Physicians and Surgeons San Francisco —R	"	109	15	27	2	46	34		
Oakland College of Medicine and Surgery —R	67,000	7	1			23	35		
College of Medicine, University of Southern California —R	102 179	101	9	21	3	39	30		
*College of Physicians and Surgeons Los Angeles —R	103 624					57	35		
COLORADO								56	212
Denver and Gross College of Medicine —R	175 000	115	12	30	2	81	35		
Denver Homeopathic College —H	"	26	6	7		32	30		
Colorado School of Medicine —P	6 150	16	6	17		27	38		
CONNECTICUT								23	140
Yale University Department of Medicine —R	115 000	140		23		47	39		
DISTRICT OF COLUMBIA								120	601
Columbian University Department of Medicine —R	278 718	306		52		65	34		
Georgetown University School of Medicine —R	"	140		32		53	34		
Howard University Medical Department —R	"	138	17	32	4	32	31		
GEORGIA								74	384
Atlanta College of Physicians and Surgeons —R	89 872	215		31		43	26		
Georgia College of Eclectic Medicine and Surgery —E		54		17		16	26		
Medical College of Georgia —R	39 441	115		26		25	26		
ILLINOIS								824	4 170
American Medical Missionary College —R	1 900 000	61	27	14	7	35	30		
Bennett College of Eclectic Medicine and Surgery —E	"	103	12	7	3	42	32		
Chicago Homeopathic Medical College —H	"	106	9	36	1	64	35		
College of Medicine and Surgery —Ph M		50	20	9	2	41	35		
College of Physicians and Surgeons Chicago —R		612	53	198	16	141	36		
Hahnemann Medical College and Hospital —H		117	21	38	11	70	30		
Harvey Medical College —R		215	15	16	2	63	40		
Hering Medical College —H		64	28	17	12	46	30		
Illinois Medical College —R		222	15	55	3	51			
Jenner Medical College —R	"	120	2	24		53	43		
Northwestern University Medical School —R	"	587		133		112	34		
Rush Medical College —R		973	60	153	7	213	36		
National Medical University	"	228	6	19	1	76	36		
American College of Medicine and Surgery —E		237	25	22	1	66	33		
Dearborn Medical College Chicago —R		127	7	14	3	42	40		
Medical Department Lombard College Galesburg —R	19,407	18	2			12	39		
INDIANA								117	560
Central College of Physicians and Surgeons —R	160,104	129	3	20		51	30		
Medical College of Indiana —R		202	10	79	1	68	30		
Physio Medical College of Indiana —Ph M	"	28	6	8	1	31	30		
Eclectic Medical College of Indiana —E	"	30		3		30	26		
Fort Wayne College of Medicine —R	45 115	44	2	5		36	31		
Indiana University School of Medicine —R	7,000	17	1			9	38		
IOWA								130	675
Drake University College of Medicine —R	91 515	61	4	13		42	39		
Keokuk Medical College of Physicians and Surgeons —R	14 641	260	7	45	2	201	31		
Sioux City College of Medicine —R	33 111	53	6	12		26	34		
State University of Iowa Homeopathic Medical Dept —H	7,987	35		9		24	38		
State University of Iowa, Medical Department —R	"	240	9	45	4	39	38		
KANSAS								35	240
College of Physicians and Surgeons of Kansas City —R	55 000	78	6	11		43	30		
Kansas Medical College —R	33 608	92	12	15	9	33	32		
School of Medicine, University of Kansas —R	10 802	21	1			18	30		
KENTUCKY								263	1 213
Hospital College of Medicine —R	225,000	421		99		49	26		
Kentucky School of Medicine —R	"	272	3	57	1	50	32		
Louisville Medical College —R	"	248		61		26	30		
Louisville National Medical College —R	"	36	2	4		28	30		
Southwestern Homeopathic Medical College —H	"	15	6	2	4	22	30		
Medical Department University of Louisville —R	"	204	6	35	4	34	26		
Kentucky University Medical Department —R	"	370		71		34	26		
LOUISIANA								96	488
Flint Medical College of New Orleans University —R	287,104	48	2	4	1	11	28		
Tulane University, Medical Department —R	"	438		91		46	28		
MAINE								22	101
Medical School of Maine, Bowdoin College —R	50 000	101		22		23	35		
MARYLAND								472	1,725
Baltimore Medical College —R	508,951	409		77		54	33		
Baltimore University School of Medicine —R	"	70	1	50	1	25	30		
College of Physicians and Surgeons of Baltimore —R	"	343		83		49	32		
Medical Department Johns Hopkins University —R	"	253	23	42	3	81	36		
Southern Homeopathic Medical College —H	"	32	7	11	2	34	30		
University of Maryland School of Medicine —R	"	340		96		58	32		
Woman's Medical College of Baltimore —R	"		24		3	32	34		
Maryland Medical College —R	"	223		104		38	30		
MASSACHUSETTS								237	974
Boston University School of Medicine —H	603,163	81	18	22	5	62	35		
College of Physicians and Surgeons —R	"	106	11	24	3	36	40		
Harvard University Medical School —R	"	364		133		149	39		
Tufts College Medical School —R	"	341	53	50		108	36		
MICHIGAN								228	956
Detroit College of Medicine —R	300,000	260		72		71	32		
Detroit Homeopathic Medical College —H	"	43	7	8		37	30		
Michigan College of Medicine and Surgery —R	"	109	1	25	1	36	34		
Grand Rapids Medical College —R	87,565	47	2			32	30		
University of Michigan Dept of Medicine and Surgery —R	14,509	384	34	91	10	78	38		
University of Michigan Homeopathic Medical College —H	"	60	9	20	1	49	38		
MINNESOTA								88	370
College of Homeopathic Med and Surg Univ of Minn —H	225,000	15	3	3	1	33	30		
College of Medicine and Surgery Univ of Minnesota —R	"	259	7	67	1	102	38		
Medical Department of Hamline University —R	"	81	5	16		43	37		
MISSISSIPPI									16
Medical Dept University of Mississippi, Oxford —R	2 000	15	1			11	37		

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*First session begins Oct 1 1904

NAME OF COLLEGE	Estimated population of city in which college is located	No. of students registered session of 1903-1904 Men	No. of students registered session of 1903-1904 Women	Graduates 1904 Men	Graduates 1904 Women	Total number of teachers	Number of weeks in college year	Total graduates all colleges in state, 1904	Total students in all colleges in state 1903-4
MISSOURI								546	2 340
Medico Chirurgical College —R	163 752	84		20		52	32		
*Woman's Medical College —R									
University Medical College of Kansas City —R		234		67		53	30		
Kansas City Hahnemann Medical College —H		42	10	14	3	38	28		
Kansas City Medical College —R		120		34		40	31		
Eclectic Medical University —E	"	51	9	14	2	25	32		
Central Medical College —R	105 000	66	6	13		28	30		
Ensworth Medical College —R	'	94		19		32	30		
Barnes Medical College —R	575,238	442	43	116	9	32	32		
Marion Sims Beaumont College of Medicine —R		407		98		99	32		
St Louis College of Physicians and Surgeons —R	'	250		47		53	30		
American Medical College —I	'	76		12		17	30		
Homeopathic Medical College of Missouri —H		50	7	9	1	81	28		
Medical Department Washington University —R		279		63		61	35		
University of the State of Missouri —R	5,651	79	4	10		33	38		
NEBRASKA								79	386
University of Nebraska College of Medicine —R	102 555	140	10	30		60	35		
John A. Creighton Medical College —R		151	2	27		50	34		
Lincoln Medical College of Cotner University —F	40 169	75	8	18	4	28	31		
NEW HAMPSHIRE								13	68
Dartmouth Medical College —R	1 884	68		13		29	40		
NEW YORK								504	2 575
Albany Medical College —R	100 000	173		41		62	32		
College of Physicians and Surgeons —R	3,437 202	691		174		125	34		
Cornell University Medical College —R		824	37	50	5	145	37		
Eclectic Medical College —E		77	18	5	3	33	34		
Long Island College Hospital —R		389		47		95	35		
New York Homeopathic Medical College and Hospital —H		118		28		71	31		
New York Medical College and Hospital for Women —H			33		5	41	31		
University and Bellevue Hospital Medical College — I		342		61		107	30		
Syracuse University College of Medicine —R	108 374	124	7	30	1	49	35		
University of Buffalo Medical Department R	352 387	231	12	51	3	82	31		
†Medical Department Fordham College New York R									
NORTH CAROLINA								42	299
Leonard Medical School —R	13 643	125		21		11	28		
Wake Forest School of Medicine —R	823	18				10	39		
North Carolina Medical College —R.	904	83	1	17		21	35		
Medical Department University of North Carolina R	13 643	72		4		20	38		
OHIO	381 768	88		31		44	37		985
Western Reserve University Medical College —R	381,768	88		31		44	37		
Cleveland College of Physicians and Surgeons —R	"	70	5	19		63	32		
Cleveland Homeopathic Medical College —H		76	9	23	2	73	33		
Eclectic Medical Institute —E	325 902	133	9	26	1	23	30		
Medical College of Ohio —R.	'	145		40		54	36		
Pulte Medical College.—H		20	2	7		35	31		
Miami Medical College —R		92	11	22	5	60	35		
Ohio Medical University —R	125 560	161	7	38	3	35	32		
Starling Medical College —R		124		33		36	33		
Toledo Medical College —R	131 822	32	1	7		36	33		
OKLAHOMA									9
University of Oklahoma Norman	3 682	9				4	36		
OREGON								24	138
University of Oregon Medical Department.—R.	125 000	85	11	14	2	28	30		
Medical Department Willamette University —R	10 000	38	4	7	1	16	26		
PENNSYLVANIA								493	2,300
Temple College of Philadelphia Dept. of Medicine —R	1 293 697	54	9	2		40	39		
University of Pennsylvania Department of Medicine —R		472		96		122	38		
Hahnemann Medical College and Hospital —H		201		66		56	34		
Jefferson Medical College —R		732		165		109	35		
Woman's Medical College of Pennsylvania —R			159		48	48	34		
Medico Chirurgical College of Philadelphia —R		414		70		82	35		
Western Pennsylvania Medical College —R	321 616	257	2	50	1	102	35		
PHILIPPINE ISLANDS									
‡San Tomaso University Manila —R	150 000								
PORTO RICO									
‡Medical Department Univ of Porto Rico San Juan —R									
SOUTH CAROLINA								23	91
Medical College of the State of South Carolina —R	55 807	90	1	23		19	26		
TENNESSEE								308	2 028
Tennessee Medical College —R	32 637	86		10		20	30		
Knoxville Medical College —R		30		8		21	26		
Medical Department of University of Nashville.—R	80 865	301		41		27	39		
Vanderbilt University Medical Department —R		168		34		36	30		
University of Tennessee Medical Department —R		154		30		28	30		
Meharry Medical College —R		275	12	54	3	21	26		
Memphis Hospital Medical College —R	102 320	566		153		28	30		
University of the South —R	1 200	148		24		22	29		
Chattanooga National Medical College —R	30 154	9		1		19	30		
Chattanooga Medical College —R		249	3	36	1	28	27		
University of West Tennessee Medical Department.—R	15 000	27		3		10	30		
TEXAS								123	778
Medical Department Fort Worth University —R	35 000	105	1	8	1	32	27		
University of Texas Department of Medicine —R	37 789	166	6	22	1	26	34		
Baylor University College of Medicine —R	55 000	66	2	12		30	26		
Physio-Medical College of Texas —I M		21				28	26		
Dallas Medical College —R		205	7	28		30	26		
Gate City Medical College Texarkana.—R	5 000	83	1	25	1	20	30		
Southwestern University Medical College Dallas —R	55 000	35	3	11		30	26		
Bell Medical College, Dallas —R		69	3	13	1	15	26		
VERMONT								55	225
University of Vermont Medical Department —R.	20 000	225		55		42	31		
VIRGINIA								97	571
Medical College of Virginia —R	85 050	219		41		43	33		
University College of Medicine —R.		188		25		44	33		
University of Virginia Department of Medicine.—R	6 449	164		31		21	38		
WEST VIRGINIA								0	23
University of West Virginia, Morgantown	2,100	23				8	38		
WISCONSIN								51	234
Milwaukee Medical College.—R	300 000	147	1	22		59	35		
Wisconsin College of Physicians and Surgeons —R		83	3	28	1	50	34		

*Not in session †Not yet organized completely ‡Can not obtain any information

NAME OF COLLEGE	Alabama, 533	Arizona, 7	Arkansas, 443	California, 526	Colorado, 183	Connecticut, 300	Delaware, 50	Dist Columb , 15	Florida, 117	Georgia, 479	Idaho, 34	Illinois, 2,258	Indian Ter , 155	Indiana 940	Iowa, 1,002	Kansas, 618	Kentucky 616	Louisiana, 482	Maine, 208	Maryland, 450	Mass 1,125
Birmingham Medical College—R	91		1						5	1											
Medical College of Alabama—R	110								2												
Medical Department Arkansas University—R			93										10					3			
Cooper Medical College—R	1			104	1						1	4		2	7	4			2		
Medical Dept University of California—R				106																	
California Medical College—E				17																	
Hahnemann Med College of the Pacific—H				33																	
Col of Physicians and Surgeons, San F—R				53		1						5		5	6	1		1			1
Oakland College of Med and Surgery—R				8																	
College of Med Univ of So California—R				72	2							5		3	2	1					
Denver and Gross College of Medicine—R	2				69	2					1	5		2	3	3	1			1	1
Denver Homeopathic College—H			1	1	17						1			1	1	1					1
Colorado School of Medicine—R					32							1			3				3		
Yale University, Medical Dept—R						108		1		1					1	1					12
Columbian Univ, Dept of Medicine—R	1		1	2		3		57	1	5	1	14		6	2	2	5	4	3	27	8
Georgetown Univ School of Medicine—R	1				1	3	1	37				1		2		1	1			4	27
Howard University Medical Dept—R	3		2					33	5	9		2		3		3	2	1		4	2
National University Medical Dept—R																					
Atlanta Col of Phys and Surgeons—R	21								14	158			1				1				
Georgia Col of Eclectic Med and Surg—E	3		1						1	48											
Medical College of Georgia—R					2	1			4	91											1
American College of Med and Surgery—E																					
American Medical Missionary College—R				6										1	12	1			1		1
Bennett Col of Eclectic Med and Surg—E			1								1	65		7	4						
Chicago Homeopathic Medical College—H				2								15		12	14	8	2				
College of Medicine and Surgery—Ph M	1		2	2	2	1						35		5	2			1		2	1
College of Phys and Surgeons Chicago—R			3	5	2	2					1	372	1	32	75	11	3	2			1
Hahnemann Med College and Hospital—H			1	2		1			1		1	49		3	17	7	2				1
National Medical University	1		1	1	3					1	1	154	1	5	11	3	2	1	1		1
Hering Medical College—H				5								38		2	3	7	3				
Illinois Medical College—R	1		3	1						1	1	86	1	45	7	1	2	4	1		
Jenner Medical College—R	1		1	1						1		83		4	3	2	2	1			
Dearborn Medical College												134									
Northwestern University Med School—R			1	2	1						5	243		22	88	9	1	3		1	
Rush Medical College—R	4	3	18	20	10	3		2		3	4	322	2	80	103	31	9	3	2		5
Central Col of Physicians and Surgeons—R												6		111	1	1					
Indiana University School of Medicine												1		17							
Medical College of Indiana—R												20		264		1					
Physio Medical College of Indiana—Ph M												10		13	1						
Eclectic Medical College of Indiana—E										1				28							
Fort Wayne College of Medicine—R														34							
Drake University College of Medicine												3			55	2					
Keokuk Medical Col of Phys and Surgs—R				1	1	1						59	1		104	23					
Sioux City College of Medicine—R												1			15	1					
State Uni of Iowa Medical Dept—R				1								10			228						1
State Univ of Iowa Homeo Med Dept—H															34						
Col of Phys and Surgs of Kansas City—R			2										2	1		56					
Kansas Medical College—R					2			1								91					
School of Medicine University of Kansas																22					
Hospital College of Medicine—R																					
Kentucky School of Medicine—R																					
Louisville Medical College—R	9		10	2	2				4	5		1	5	21	2	14	50	7			
Louisville National Med College—R	1											1	1	3			28				
Kentucky University Medical Dept—R	5		5			2			1	1		4	1	52	1	2	174	7	1		1
Medical Dept University of Louisville—R			2									3		25			114	5			
Southwestern Homeopathic Med College—H												1		5			14				
Flint Med College of New Orleans Univ	1									1								29			
Tulane University Medical Dept—R	2		21						9	7		1	2	1				209			
Medical School of Maine Bowdoin Col—R																			88		10
Baltimore Medical College—R	1		1	2		18		5	1			1					1		13	67	69
Baltimore Univ School of Medicine—R						2			1	2								1	1	6	6
Col of Phys and Surgs of Baltimore—R					1	18	7			7		1		3			1		4	48	20
Maryland Medical College—R	12			1		3	2		2	19								4	4	34	12
Medical Dept Johns Hopkins Univ—R	7		1	8	2	14		3	4	6		6		7	9		6		11	52	9
Southern Homeopathic Med College—H							4	1									1			17	1
Univ of Maryland School of Medicine—R			1			2	4	2	4	15							2	1	1	143	6
Woman's Medical College of Baltimore—R								2		1				1			1			11	
Boston University School of Medicine—H						2			1										3	1	71
College of Physicians and Surgeons—R				1		3		1											1	1	79
Harvard University Medical School—R	1			3	1	4						8			1				18		266
Tufts College Medical School—R						3													15		326
Detroit College of Medicine—R								1			1				2		1				1
Detroit Homeopathic Medical College—H														1							
Grand Rapids Medical College—R														2			1				
Michigan College of Med and Surgery—R									2	3	1	22	1	15	11	3	1				5
Univ of Mich Dept of Med and Surg—R	2			1	1	1						1		3				1	2		2
Univ of Mich Homeopathic Med Col—H				1	1																
Col of H Med and Surg U of Minn—H												1			9	1					
College of Med and Surg Univ of Minn—R						1															
Medical Dept of Hamline University—R																					
Medical Dept University of Mississippi																					
American Medical College—E			6					1			1	10			2	1	1	1			
Barnes Medical College—R	1		23	4	4						2	85	14	13	17	14	14	2			
Central Medical College—R					1						1		1		1	10					
Eclectic Medical University—E			1	1	1								1			25					
Ensworth Medical College—R												1			6	10					
Homeopathic Med College of Missouri—H																					
Kansas City Hahnemann Med College—H																					
Kansas City Medical College—R												2	1			70					
Marion Sims Beaumont Col of Medicine—R		1	7	2	3					1	1	134	1	3	16	18	3	2			1
Medical Dept Washington University—R	1		13		3						4	66	6	2	3	7	1	2			
Medico Chirurgical College—R			3		1						1	1	1		2	30					
St Louis College of Phys and Surgeons—R			9		2							70	3	5	14	4	10				
University Med College of Kansas City—R			1	2	1							1	4		5	78					
Medical Dept University of Missouri—R	1		2	1								4		2	3	3	1				
Woman's Medical College—R																					
John A Creighton Medical College—R											1	1			29	2					
Lincoln Medical College of Cotner Univ—E															3	10					
Univ of Nebraska College of Medicine															20	1					
Dartmouth Medical College—R						5													5		20
Albany Medical College—R																					6

Michigan 811	Minnesota 453	Mississippi 541	Missouri, 1 208	Montana, 38	Nebraska 434	New Hamp 120	New Jersey 508	New Mexico 19	New York 2 439	Nevada 10	N Carolina 416	N Dakota 67	Ohio 1 120	Oklahoma 105	Oregon 150	Penna. 2 077	Rh Island 114	S Carolina 242	So Dakota 92	Tennessee 652	Texas 1 153	Utah 67	Vermont 160	Virginia, 523	Washington 105	West Va 329	Wisconsin, 561	Wyoming 13	Canada, 210	Foreign 356	Total 25 777
		1	1																					1							104
		18																												1	167
			1											3							5										115
3	2		1	1			2		4	6					6	4					2	2			4		2		6	22	193
				2						1					1										2					1	113
																															47
																															38
2			2		3		1		3	2			4		2	1	1				1	3	1	1					3	21	124
																															8
5			2		3				5						3	2									2				3		110
2			2		1			2	6		1		2			3						1		2	2		8	2	1	4	127
1	1		1		1				1				1			1														1	82
				2	1		1		1				2			3				1			1						1		52
					2		2		3						1	1	2	1					1						1	2	140
1	4	5	2	1	1	1	7		25		11	3	10	2	1	24		2	1	5	7	2	3	33		3	5			2	306
3		1				1			15		1	1				14	2	1					1	10	1	3			2	5	140
		1	3				3		1		4		5		1	7	2	14		3	5			11		2	1		1	22	155
		2							1					1		1		7		2	5									1	215
																				1											54
																		16													115
17	3				2				4		2		9			2					1	1	1		2	1	6		3	12	88
6	3		2		1								7		2	1					3						7		3	2	115
10	4				1				1				5			1			1	1	1				1		5			1	115
1	2		1										1						2		2	1					3		1	2	70
20	23		5	4	8		1		7			6	23		2	3			10		1	1		2	2	1	58		3	5	695
12	3	1	3		2				9				5			4					1	2			1		7		2	1	138
5	2	2	1		3				5				3	1		3			5		2	2		1			5		2	5	284
6	2		4						5				2			2									3					10	92
3	3	7	3		4		1	2	6			2	12			8		1		1	10	2		2	1	5	9			1	237
4	1	1	5		1								3							2				1			3		2		122
																															134
15	18		7	2	22				3				12	3	5	4	1		15		4	4	1	1	11		69		3	6	587
44	24	4	36	6	20		1	1	4		1	5	32	6	8	5		1	11	11	48	8	2	1	13	3	90		7	8	1033
													10			1											2				132
																															18
3									1				10								1						1			1	302
													5									1				1				1	32
																1															30
2	1												9																		46
1	2																		1										1		65
3	10		18		12		1						1	4		2			14							1	7		1		267
	1				8							1							2												59
			1		1		1									1			2			1					2				249
					1																										35
2			11						1				3	3							2								1		84
			1		1			1				1		1		2					2				1						104
																															22
2		25	5								8		3	4		3		4		10	30			4	2	12	1			3	248
			2													1										1					38
	1	14	7		1	1	1	2	4		5		5			4		3		10	16			5	2	27				2	370
		4	5						2				7			2				10	16			2		13					210
													1																	1	21
		13	1																	1	3									1	50
	1	73									5		1	3				5		4	60						1		1	2	438
						1																1							1		101
1		2			1	12	29		23		5	1	7			67	11	4		2	2		10	9		23			8	18	409
							13		13							12	4			1				2		7					71
						1	20		20		10		13			60	14	2		2	2	14	1	9	1	41			14	9	343
		1		1		3	7		10		6		3			19	3	7		1	4			12		41	1		2	9	223
2	3	1	3		2	4	8		26		6	2	8		4	25	1			1	5		2	12		1	15				276
							1		1							12										1					39
						1	6	1	13		38		1			11	2	21		1	2			23		13			4	22	340
							1		2		1					3								1							24
						5			2				1			2	4						2						2	3	99
						2			9				1				4						1	3					6	5	117
			3			9	1		8			1	4			8	18			1			6	1	1	1	1		4		364
1						19	1		2							1	14					1	3					1	6	1	394
181						1	1		5			6	3			1											1	1	51	3	260
24									7				8			5													4	1	50
44									9																						49
98									6																				5		110
231	5		2	3	3		4		20		1	3	23			15			1	1		1	4	1	2	1	7	1		10	418
36				3					8				7			3													1		69
	18																														18
	221										1	15							4						1		9		2		266
	73			1								8							1								8				86
		16																													16
			48											1						1	3									1	76
2	4	1	199		4				2				17	2		2			3	4	34			1	2	9			2	2	485
			30	1	8				1			1	1	5		1									1						72
			28										1	1							1										60
			69		3																2	1					2				94
	1		35		1								1	4											5						120
	1	2	164	1	2			1				1	1	6		1			2	1	10	6			4	2		1		8	407
	2		134	1	2			1				2	4	2		1					7			2	4		2		1	6	279
			38	1						1				4											1						84
	2	1	89	2				1	1				2	5	2	1					18	2			3				1	3	250
			121		4									10		1				1	1			1		1		1	1		234
			56						2		2					3		1					1							1	83
	3			1	102				2					2					9									1			153
1			2		62														1		1				1	1	1				83
1	1				121												1		4									1			159
						25	1		5														5							2	68
									162							2							2							1	173

NAME OF COLLEGE	Alabama 533	Arizona, 7	Arkansas, 443	California 526	Colorado, 183	Connecticut, 300	Delaware, 50	Dist Columb 158	Florida, 117	Georgia, 479	Idaho, 34	Illinois 2 258	Indian Ter , 175	Indiana 940	Iowa 1,002	Kansas, 618	Kentucky 616	Louisiana 482	Maine, 208	Maryland, 450	Mass , 1 125
College of Physicians and Surgeons—R	4		2	2	2	24	1		3	2		3		3		1	3		4	1	24
Cornell University Medical College—R	2			1		6						2		1				1	2		5
Eclectic Medical College—E																					
Long Island College Hospital—R						9															
N Y Homeopathic Med Col and Hosp—H						8		2													8
N Y Med Col and Hosp for Women—H														1							2
Syracuse University Col of Medicine—R						2													2		2
University and Bellevue Hosp Med College						12			1	2		2		3	1	1	2			1	14
University of Buffalo Medical Dept—R						1															
Leonard Medical School—R	7		1					2	2	3		1									
Medical Dept, University of North Carolina									1	1											
North Carolina Medical College—R																					2
Wake Forest School of Medicine										1											
Cleveland College of Phys and Surgeons—R						1							1				1				
Cleveland Homeopathic Med College—H																					
Eclectic Medical Institute—E			5	1	1				1	1		9	1	13			17				
Medical College of Ohio—R	1								1			4		8			21				
Miami Medical College—R	1			1					1					6			10				
Ohio Medical University—R														2			1				2
Pulte Medical College—H																	1				
Starling Medical College—R						1							1	1		1					
Toledo Medical College—R														1							
Western Reserve University Med Col—R															3						1
Uuniversity of Oklahoma																					
Medical Dept Willamette University—R																					
University of Oregon Medical Dept—R												1									
Hahnemann Med College and Hospital—H	1			1		2	4	2				1		1				1	1	3	3
Jefferson Medical College—R	3			4	1	8	12		3	6	2	8		11		1	2	1	3	6	32
Medico Chirurgical Col of Philadelphia—R			2	1		4	8		1	1		1		1	1		3	1	2	2	4
Temple Col of Philadelphia Dept of Med							2					1								2	
University of Pa Dept of Medicine—R	4			2	3	4	3	3	2	1		5		6	2	1	6		5	12	8
Western Pennsylvania Med College—R		1		1	2							1								2	
Woman's Medical Col of Pennsylvania—R				1		3	2	2			1	3		1	3	3	2	1	2		12
Medical College of South Carolina—R									3						1						
Chattanooga National Med College—R	1									1											
Chattanooga Medical College—R	19		5	4	1	1			2			4	2	2		1	7	2		1	1
Knoxville Medical College—R	1		4									1	2				3				
Medical Dept of Univ of Nashville—R	28		20						1	3		1					14	34			
Meharry Medical College—R	17		26						21	14		3	1	1		5	16	12			
Memphis Hospital Medical College—R	22		92							3			23	1	1	3	1	86			
Sewanee Medical College—R	13		3						3	11		1	1			1		19			
Tennessee Medical College—R																	15				
Univ of West Tennessee Medical Dept—R	1		3															2			
University of Tennessee Medical Dept	7		5	1		1			1			2	3				16	3			
Vanderbilt University Medical Dept—R	15		4			1			2	5		2	1				13	3		1	
Baylor University College of Medicine												1	6					2			
Bell Medical College			3									1	5			1					
Dallas Medical College—		2	4	2									28		1	2		8			
Medical Dept Fort Worth University—R			3		1							1	4	1	1			3			
Gate City Medical College	1		23										14	1				7			
Physio-Medical College of Texas													1								
Southwestern University Medical College																					
Univ of Texas Dept of Medicine—R																		1			
Univ of Vermont Medical Dept—R						7													7		27
Medical College of Virginia—R									1												2
University College of Medicine—R	1								5	1											1
University of Virginia Dept of Medicine—R																					
West Virginia University																					
Milwaukee Medical College—R						1								1							
Wisconsin College of Phys and Surgs—R																	1				

The Public Service.

Army Changes

Memorandum of changes of station and duties of medical officers U S Army week ending Aug 6 1904

Kiersted H S asst surgeon left Fort Myer Va with Fourth Battery Field Artillery and Troop E Fifteenth Cavalry en route to Harper's Ferry W Va

Baily Howard H asst surgeon reported for duty at Plattsburg Barracks N Y

Stephenson William and Kendall, Wm P surgeons Edger Benj J Rockhill E P Winn Robt N Truby Albert E Baker F C and Rand Irving W asst surgeons detailed for duty with troops on field exercises at the Ranche del Encinal San Luis Cal in pursuance of G O 27 C S Department of California

Godfrey G C M asst surgeon relieved from duty at Fort Apache Arizona Territory to take effect on Sept 1 1904 and will proceed to New York City N Y and assume the duties of attending surgeon and examiner of recruits and medical superintendent Army transports

McCulloch C C Jr asst surgeon on being relieved at New York City by Capt Godfrey asst surgeon will proceed to Fort Hancock N J and report to the commanding officer of that post for duty to relieve Capt B H Dutcher asst surgeon U S Army

Dutcher Basil H asst surgeon on being relieved at Fort Hancock N J by Capt McCulloch Jr asst surgeon will proceed to Fort Apache Ariz and report to the commanding officer of that post for duty

Geer Charles C asst surgeon reports from sick in U S Army General Hospital Washington Barracks D C, to sick leave of absence for three months

Bevans Jas L, asst surgeon granted twenty days' leave of absence

Gardner Edwin F deputy surgeon general retired from active service this date as lieutenant colonel

Appel Daniel M deputy surgeon general promoted deputy surgeon general with rank of lieutenant colonel from Aug 3 1904

Winter Francis A surgeon promoted surgeon U S Army, with rank of major to date from Aug 3 1904

Jean Geo W, asst surgeon reported for temporary duty at Fort Wadsworth N Y left from temporary duty at Fort Jay N Y same date

Bosley, Jno R asst surgeon reported for duty at Fort Egbert Alaska

Raymond Thos N surgeon detailed to represent Medical Department of the Army at meeting of American Roentgen Ray Society St Louis Mo Sept 9 to 13 1904

Foster, Douglas E contract dental surgeon ordered to Fort Monroe Va for two months duty

Brown Henry D contract surgeon returned July 23 to duty at his proper station Fort Ward Washington from temporary duty at Fort Casey Washington

White, J Samuel contract surgeon returned July 28 to duty at his proper station Fort Snelling Minn from temporary duty at Fort Keogh Mont

Woods, Oscar W contract surgeon returned July 25 to duty at his proper station Vancouver Barracks Wash from temporary duty at Fort Stevens Wash

Decker George M contract dental surgeon departed July 29 from Fort Logan Colo for his home at Owego N Y

Slater Ernest F contract surgeon returned to duty July 30 at Fort Hancock N J, from leave of absence

Halliday Francis A contract surgeon ordered from Fort McPherson, Ga, to Fort Screven Ga for temporary duty

Stearns Charles H contract surgeon ordered from Fort Monroe Va to Fort Washington Md for temporary duty

Jones John F contract surgeon ordered from Fort Totten, N Y to Fort Terry, N Y for temporary duty

Corbusier Harold D, contract surgeon ordered from Fort Mansfield, R I, to Fort Greble R I for temporary duty

Hess John H contract examining and supervising D S ordered from West Point, N Y, to Watervliet Arsenal N Y for temporary duty and return.

Michigan 811	Minnesota 45	Mississippi, 541	Missouri 1 208	Montana, 38	Nebraska 434	New Hamp 120	New Jersey 508	New Mexico 19	New York 2 439	Nevada 10	N Carolina 416	N Dakota 67	Ohio 1 120	Oklahoma 105	Oregon 150	Penna 2 077	Rh Island 114	S Carolina 242	So Dakota 92	Tennessee, 652	Texas 1 153	Utah 67	Vermont 160	Virginia, 523	Washington 10	West Va 329	Wisconsin 561	Wyoming 13	Canada 210	Foreign, 856	Total 25 777
		2	2	2		3	108		473		1		4		1	12	11	2		1	5		3	2			2	1	3	11	691
		1	1			1	27		254				5		2	2	3						1		1		1		5	6	360
							4		90								1														95
							30		323							2	3						2						2	10	389
							15		79				1			2					1				1					3	118
							5		26																						38
									118							5														4	131
1			1			3	50		204		1		6	1		11	1			3	2	4	1	1	6	1		2	4	6	342
									220				2			8			1										2		243
1		3	1				2		4		39					7		12			1			28		3				8	125
									3		62		1			3								1							72
		1									74							3						3						1	84
											11							3													18
1									2				59			6														4	76
1						1	1		10				46			26															85
			1						7				18	1		14					4					18					142
		1		1									102	1										1		1	1			2	145
1													82																	1	103
1									1				141			9										2	1			5	168
													20													1					22
													112			4										3				1	124
1													31																		33
									2				78			4															88
														9																	9
															42																42
		1							1			1			63	1									21		1		4	2	96
					1		26		12				6			131							1						2	2	201
	3	1		1		2	52		20		17	1	21		4	485	3		1	1	6	2	3	5		9		1	4	7	732
				1	1		29		8		2					317	1			2		3			1	1	1		6	6	414
							3		4							49														2	63
1	2		2		1	2	20		19		3		18	1		300	3			2	2		2	3	3	6	3		2	10	472
									1				22			225										4					259
1		5			1	2	10		5		2		2			75		2		1	3		1	2	1				1	9	159
									1									85													91
											1									3											9
3		10	2				2	3	4		16		3	1		1	1	5		77	3	1		8		7	1		1	1	252
		5	1								4							1		4	1										30
		56							2		6					1		12	1	97	19					5				1	301
1		37	13						2		2		3	3		1		13		56	32			1		2				7	287
		108	10								1		1	1				1		71	76			1						1	566
		23	1				2				1			1		4		5		26	21			12							148
								1			12									55	1			2							86
		8																		8	5										27
	1	8	2						3		4					1				76	20										154
		14	2										2	1				1		85	16										168
							1	1													57										68
			3											1						3	55										72
	1	1	1					1						[illegible]				1		2	153										212
																					92										106
		2																			36										84
	1		1																		17									1	21
			1					1						3				1			32										38
																					171										172
1						20	1		51							4	2						98						7		225
									4		17		2			2		5			2			168		15			1		219
							2		1		26					2								135		13			1		188
																										23					23
2									2			1				1								1			137		2		148
									1																		84				86

Corbusier Harold D contract surgeon returned August 2 to duty at Fort Mansfield R I from leave of absence

Tignor Edwin P contract dental surgeon ordered from Fort Riley Kan to Fort Robinson Neb for one month s duty thence to Fort Des Moines Iowa for one month s duty then to return to Fort Riley

Foster Douglas E contract dental surgeon returned August 1 to duty at Fort Hancock N J and August 3 proceeded to Fort Monroe Va for two months duty

Hussey Samuel W contract dental surgeon returned August 1 to Fort Snelling Minn having completed an eight months itinerary of the posts in the Department of Dakota

Health Reports

The following cases of smallpox yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine-Hospital Service during the week ended Aug 5 1904

SMALLPOX—UNITED STATES

District of Columbia Washington July 23 30 1 case

Florida At large July 23 30 13 cases

Illinois July 23 30 Chicago 5 cases Danville 1 case Springfield, 3 cases

Iowa Clinton July 16 30 4 cases

Louisiana July 23 30 Baton Rouge 3 cases New Orleans 1 case traced to importation

Michigan At 78 localities July 16-23 present

Missouri St Louis July 17 30 2 cases

Nebraska Omaha July 23 30 2 cases

New Jersey Jersey City July 17 24 2 cases

New York New York City July 23-30 1 case

Pennsylvania Johnstown July 23 30 1 case

Tennessee Nashville July 23 30 1 case

Washington Tacoma July 18 25 2 cases

Wisconsin Milwaukee July 25 30 1 case

SMALLPOX—FOREIGN

Austria Prague July 2 16 8 cases Vienna July 9 16 1 death

Brazil Bahia July 2 9 8 cases Rio de Janeiro June 12 26 304 cases 124 deaths.

China Hongkong June 11 18 1 case 1 death

France Paris June 9 16 9 cases, 2 deaths

Great Britain Leeds July 16-23 6 cases July 2 9 Newcastle-on Tyne 23 cases Sheffield 2 cases Nottingham July 9 25 20 cases

India Calcutta June 18 July 2 2 deaths

Italy Palermo July 2 16 11 cases 2 deaths

Mexico City of Mexico July 10 17 2 cases, 3 deaths.

Peru Arequipa, June 18 epidemic

Russia Moscow June 25 July 9 29 cases 7 deaths Odessa July 9-16 1 case St. Petersburg July 2 16 9 cases 2 deaths Warsaw 34 deaths

Spain Barcelona, July 10 20 9 deaths

Turkey Beirut July 9 16 present Constantinople July 3 17 9 deaths

YELLOW FEVER

Brazil Rio de Janeiro June 12 26 6 cases 3 deaths

Costa Rica Limon July 17 23 1 case 1 death

Ecuador Guayaquil June 29 July 13 13 deaths

Mexico Coatzacoalcos July 9 16 1 death July 10 23 Merida 9 cases Tehuantepec 10 cases 7 deaths Vera Cruz, July 16-23 24 cases

CHOLERA

China Hongkong June 11 18 3 cases 3 deaths

India Calcutta June 18 July 2 39 deaths

Persia Teheran June 25 July 9 300 deaths daily

Turkey in Asia June 28 481 cases 852 deaths Bahrein Islands May 1 June 1 1 500 deaths

PLAGUE

Africa Cape Colony June 18 25 1 case 1 death Durban May 28-June 4 2 deaths Johannesburg June 5 12 1 case

Brazil Bahia July 2 9 5 cases 2 deaths Rio de Janeiro June 12 26 3 cases 3 deaths

China Amoy June 4-25 45 deaths estimated Canton and vicinity June 2 increasing Hongkong June 11 18 53 cases 52 deaths.

Egypt June 18 25 36 cases 16 deaths

Formosa June 11 25 178 cases 129 deaths

India Calcutta, June 18-July 2 31 deaths Karachi June 26-July 3 1 case 1 death work of visitation and inspection is resumed, the preparation of the report can be proceeded with as was contemplated in the recommendation, because the information can be obtained directly from the college much more correctly and expeditiously than it is possible to obtain it from a catalogue

I have, however, begun this work and am prepared to give you the results of the little I have been able to do under the circumstances

On taking up this work I was struck by the heterogeneity and variableness of the information to be obtained from a catalogue Contradictory statements were made as often as three times in one catalogue After I had figured out the amount of time devoted to various studies in about fifty catalogues, I was forced to abandon the work because the information obtained in that way could not be utilized for any purpose Each college has its own ideas as to what should be taught and how much time should be devoted to it Some colleges devote considerable time to studies not considered worthy of a place in the curriculum by others Again, some studies are merged and are taught from one chair, so that no estimate can be made as to the time devoted to each of the studies so merged A personal communication with the teacher would be the only proper way for obtaining such information, and that requires considerable time and correspondence, as well as an outlay of much money Therefore, I have laid this portion of the work aside until some future time when conditions are more favorable for taking up a study of the curricula of medical colleges It can not be denied, however, that such a report would be of assistance to all colleges in preparing their courses of study, and in establishing a uniformity of curricula

LENGTH OF TERM

Next I took up the length of the courses, and here too, I found considerable variation Six months may mean 24 weeks or 26 weeks Seven months usually means a 28 weeks' course, but in some instances it is only a 27 weeks' course Eight months means 30, 31 or 32 weeks Nine months means anywhere from 33 to 36 weeks I made my calculation according to the calendar, including examination weeks and omitting the vacation periods A calculation based on the number of days of actual attendance would, perhaps, have been more interesting, and it certainly would have been more exact, and I shall make future calculations on this basis Then, too, the length of the senior course always is shorter than the courses of the first three years, so that the fourth year of an eight months' school would not exceed 28 weeks in length

ENTRANCE REQUIREMENTS

Considerable variation also shows itself in the matter of entrance requirements Admission by examination is possible in nearly all colleges Some colleges admit only on presentation of a high school diploma, and some specify what such a diploma should represent in work done In some instances it is rather difficult to determine just what credentials for entrance are required Some colleges give time credits for nearly all kinds of work done Others give only work credits, even to holders of baccalaureate degrees A few colleges that are parts of a university prefer to admit only such students who have completed a prescribed course in such university I have prepared a preliminary report on this, and expect to be able to present a complete report, giving the name of each college and its entrance requirements in detail It is impossible to do this in a summarized report

A number of colleges will not admit students on conditions, and that, in a large measure, may be responsible for the falling off in numbers of the medical students during the past year Of course, the raising of the entrance requirements quite generally has had much to do with this falling off

It is almost impossible to obtain a correct list of the medical colleges in this country I believe that at present I have a list that is more nearly correct than any other My information has been obtained from any and varied sources, but because of the constant formation of new colleges it is quite a task to keep the list correct

I have studied all the colleges in this country—those that are members of this Association and those that are not As a result of this study, I present the following summarized report

There are at present in the United States, including the Philippine Islands, 128 regular schools, 10 homeopathic, 10 eclectic, 3 physiomedical, and 1 nondescript, a total of 161 Of this number, 66 of the regular schools belong to the Association and 65 are non members (Of this number, four have been received into membership since the writing of this report, and applications have been filed by two more.)

MEMBERS

Of the colleges belonging to the Association, 2 are exclusively for women, 2 for negroes, 1 has both day and evening courses, 3 have a continuous course extending over twelve months and divided into four semesters of three months each, 1 college is a member of this Association and also of the Southern Medical College Association, 7 schools confer two degrees, the baccalaureate and the medical degree, at the end of six and seven years, 37 colleges have a university connection, either actual or in affiliation

AS TO THE LENGTH OF THE TERM

Four years of six months each, 6 colleges, four years of seven months each, 19 colleges, four years of seven and a half months each, 2 colleges, four years of eight months each, 23 colleges, four years of eight and a half months each, 1 college four years of nine months each, 15 colleges, a total of 66

ENTRANCE REQUIREMENTS

Rules of this Association, 11, rules of state boards of medical registration, 9, high school diploma, 8, either a baccalaureate degree or a high school diploma, plus 15 units, 1, high school diploma, plus two years of college work, 2, high school diploma, plus one and one third years of college work, 1, high school diploma, plus one year of college work, 1, baccalaureate degree, plus credits in physics, chemistry, biology, Latin and a reading knowledge of French and German, 1, high school diploma, plus three years of college course, 1

This information was taken from the catalogues of the colleges, and is the minimum requirement, in lieu of which an examination may be taken

Some colleges give no advanced standing whatever for any degree, some give a time credit of one year to dentists only, others, to dentists and veterinary surgeons, a very few give credit to graduates in pharmacy Some colleges give work credits but no time credit

FEES

I have included the matter of fees in my study The fees vary from $35 00 a term to $200 00 The medical departments of universities have low fees for residents, but the same fee does not apply to non residents A very few colleges give a discount to the sons of physicians and clergymen One college offers the tuition of the third and fourth years to students who matriculate for the freshman work in October 1903 and 1904

NON-MEMBERS

Of the colleges who are not members of this Association, 1 is exclusively for women, 1 teaches all of the "pathies" and "sects" of medicine, including osteopathy, the student choosing his work, 5 are for negroes (4 are night schools), 4 teach the first two years only of the medical course, and 1, I understand, is a diploma mill, 34 have a university connection of some kind.

AS TO THE LENGTH OF THE COURSE.

Fours years of six months each, 19, four years of seven months each, 18, four years of seven and a half months each, 2, four years of eight months each 11, four years of nine months each, 4, four years of ten months each, 3 (night schools), five years of nine months each, 1 (night school), two years of nine months each, 4, no information, 2—a total of 65

ENTRANCE REQUIREMENTS

Twelve of these schools are members of the Southern Medical College Association, and exact the entrance requirements laid down by this Association Seven other schools abide by the rules of the Association of American Medical Colleges, 5 abide by the rules of the Southern Medical College Association, 19 require a high school diploma or its equivalent 1, a baccalaureate degree, plus a chemistry credit, 2, a high school diploma, plus one year of college work, 1 requires "satisfactory evidence of educational qualifications necessary for the successful prosecution of medical studies", 1, "a diploma certificate, or examination showing proficiency", 1, "a certificate showing proficiency", 1, "certificate showing possession of sufficient knowledge", 1, "preliminary examination for applicants not possessing requisite diploma or certificate"

FEES

The fees range from $30 00 to $250 00 The colored schools ask the lowest fees, and nearly all of them ask less than $50 00 per term

This work is merely a preliminary study, and the forthcoming catalogues for the session of 1904 and 1905 will vary considerably from those of the last session, so that this work will have to be revised from year to year One fact is very evident, and that is, a total lack of uniformity in the rules and regulations of all the medical colleges in this country, and the desirability of having uniformity, in some things at least

Respectfully submitted,

Fred C Zapffe, Secretary

The financial report was referred to the following Auditing Committee Drs Egbert, Kober and Steele

Committee on Medical Education

The balance of the report was accepted, and, in accordance with the suggestion contained therein with reference to the appointment of a Committee on Medical Education, the Chair later appointed as such committee the Secretary, Fred C Zapffe

Report of Judicial Council

Dr William J Means, chairman of the council, reported as follows

The Judicial Council held one regular meeting during the year, at the Wiltshire Hotel, Atlantic City N J June 6 There were present Drs W J Means, chairman F F Ingals of Chicago, T H Hawkins of Denver, Randolph Winslow of Baltimore and H B Ward of Nebraska The meeting was called to order by the chairman H. B Ward was elected secretary

The first business was a consideration of the applications for membership made in 1903, on which action was deferred pending further investigation of the standing of the college

Dallas (Texas) Medical College, withdrew its application

The application, of the University of Tennessee located at Jackson, Tenn , referred to Dr Means for investigation was taken up, and, because of insufficient facilities and lack of teaching force, was not considered eligible for membership Rejection of the application is, therefore, recommended

The application of the University of West Virginia located at Morgantown, W Va., for membership covering the first and second years only of a four years' medical course, is, on a report from Dr Dodson who investigated the college recommended

The application of the Medical Department of Wake Forest College, at Wake Forest, N C , for membership covering the first and second years only of a four years' medical course, is, on a favorable report from Dr Winslow, recommended

The application of the Medical Department of the University of Mississippi, located at Jackson, Miss , for membership was considered, and it was decided to recommend membership covering the first and second years of a medical course

The Medical Department of the University of Missouri made application to complete its membership for a full four years' course. A thorough investigation was made of the clinical facilities of the college and the members of the council believe they are sufficient to meet the requirements for a thorough medical course. The council therefore, recommends a full membership

The Medico Chirurgical College of Kansas City, Mo , made application for membership After due consideration the council recommends that the matter be laid over one year pending further investigation

COMMUNICATIONS AND ANSWERS

During the year many inquiries were received asking for a construction of rules governing admission of students, credits, etc Among the most important, we submit the following

CHARGES AGAINST BALTIMORE UNIVERSITY SCHOOL OF MEDICINE

The following charges were preferred by the Baltimore Medical College against the Baltimore University School of Medicine

Baltimore May 18 1904

William J Means A.M M.D Chairman Judicial Council of the Association of American Medical Colleges 715 North High St. Columbus Ohio

Dear Doctor —The Board of Directors of the Baltimore Medical College has directed me to lay before your Council the following complaint against the Baltimore University School of Medicine That the said Baltimore University School of Medicine received students then in attendance at the Baltimore Medical College on or about the following dates the same being other than is permitted by the rules of the Association of American Medical Colleges

Charles H Glover left the Baltimore Medical College on or about Feb. 17 1904 entered the Baltimore University School of Medicine and graduated therefrom on April 19 1904

Wm. F Giesregen left the Baltimore Medical College on or about March 1, 1904 and graduated from the Baltimore University School of Medicine April 19 1904

Frederick S Bootay left the Baltimore Medical College on or about Feb 20 1904 and graduated from the Baltimore University School of Medicine April 19 1904

H Forsythe Stapp left the Baltimore Medical College on or about March 26 1904 and graduated from the Baltimore University School of Medicine April 19 1904

Harper A Wright left the Baltimore Medical College on or about Dec 24 1903 and graduated from the Baltimore University School of Medicine April 19 1904

Harry D Duffy left the Baltimore Medical College on or about Feb 2 1904 and graduated from the Baltimore University School of Medicine on April 19 1904

Should other proof than this statement be required we will be pleased to place before your council on request documents proving the correctness of the charges herein made.

We regret to have to make this complaint against a school in our own city a member of the Association of American Medical Colleges but believing the charges to be true and in contravention of the rules of the Association of American Medical Colleges as well as inimical to the general welfare of medical education we feel it our duty to do so

Kindly acknowledge receipt hereof at the same time advising us what further action if any may be necessary on our part.

Assuring you of our cordial personal esteem, we have the honor to remain Yours very truly

David Streett M D Dean

P S —On April 20 our Dr Samuel T Earle informed Dr R. Winslow, the resident member of your council of this matter and I presume that he has already notified you of it D S

A copy was furnished the Baltimore University School of Medicine May 21 The following answer was received May 30

Baltimore May 30 1904

Dr W J Means Chm Jud. Coun. Association American Medical Colleges No 715 N High St. Columbus Ohio

My Dear Doctor Means —I am in receipt of your favor of the 21st and in reply our faculty is more than surprised to hear that the directors of the Baltimore Medical College should have preferred any charges against the Baltimore University School of Medicine and the faculty at a meeting held Friday evening May 27 1904 has instructed me to say that each and every one of the students mentioned in your letter that is Messrs Charles H Glover William E Geisregen Frederick S Bootay H F Stapp H A. Wright and Harry F Duffy matriculated in the Baltimore University School of Medicine in October and were students at our College during the session and if they were in attendance at an other college at the same time our faculty was not aware of it.

We have no desire to do anything that would conflict with the constitution or by laws of the Association of American Medical Colleges in any way shape or form whatever and we do all we can to uphold and support the Association We have done nothing to conflict with Section 4 Article 3 of the Constitution we only honor official credentials of recognized medical colleges and under no circumstances do we allow *any member of the senior class to graduate at our institution* unless he takes all of the branches embraced in our senior year

It is our custom when a student applies to us for matriculation and shows us his credentials for his past years we never think of such a thing as asking him whether he is in attendance at any other medical college at that time

Trusting this will be satisfactory and assuring you of our earnest desire not to do anything that will conflict with your body, I beg to remain Very respectfully yours

H H Biedler Dean
Baltimore University School of Medicine.

Due notice was given both colleges to prepare their evidence for presentation to the council June 6, at Atlantic City

Dr Streett, Dean of the Baltimore Medical College, submitted evidence, properly attested, from the records of the college and teachers in support of the charges

Dr Biedler, Dean of the Baltimore University School of Medicine, denied the charges in a general way, but furnished no documentary evidence to support his statement

After due consideration of the testimony the council adopted the following

Resolved, The testimony presented by the officers of the Baltimore Medical College clearly established the fact that Chas H Glover, Wm E Giesregen, Frederick S Bootay, H Forsythe Stapp, Harper A Wright and Harry E Duffy were regularly matriculated students in said college, and continued in attendance during the time stated in specifications, and the statement of the dean of the Baltimore University School of Medicine that said students were matriculated in his college in the month of October, and were in attendance during the session, unsupported by attested evidence from records of the college and teachers, is not a sufficient refutation

Therefore, inasmuch as the charges are clearly in contravention to the rule of the association, and the requirements for graduation set forth in the college announcement, the council recommends that the Baltimore University School of Medicine be suspended from membership until satisfactory evidence is furnished from the class records and teachers of the college properly attested, sustaining the contention that said students were in attendance during their senior year

The members of the council wish to express to the officers of the association and the members thereof, their appreciation of the many kindly courtesies shown them Respectfully,

W J Means, E. F Ingals, T H. Hawkins, Randolph Winslow, H. B Ward

On motion the report was accepted.

(To be continued)

STATE BOARD EXAMINATION RESULTS IN 1903

Name of College	Arkansas		California		Connecticut		Delaware		D Columbia		Georgia		Idaho		*Illinois		Indiana		Iowa		*Kansas		Louisiana		Maine.	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
MISSOURI—*Continued*																										
Kansas City Hahnemann Medical College—H																										
Kansas City Medical College—R	1	1																	0	1	2	0				
Eclectic Medical University—E													2	0							2	1				
Central Medical College—R																										
Ensworth Medical College—R													0	1												
Barnes Medical College—R																					0	1				
Marion Sims Beaumont College of Medicine—R			1	1							1	0	2	1	2	[illegible]	1	0	4	5						
St. Louis College of Physicians and Surgeons—R													1	0	4	0	3	[illegible]	1	0	2	0	1	0		
American Medical College—E													1	0	1	0	2	0	[illegible]	2	1	0				
Homeopathic Medical College of Missouri—H			0	1									0	1	1	0										
Medical Department Washington University—R															1	0	2	0								
University of the State of Missouri—R				2													1	0	1	0						
NEBRASKA—																										
University of Nebraska College of Medicine																							1	1		
John A. Creighton Medical College—R			0	1															5	4	1	1				
Lincoln Medical College of Cotner University—E			1	0									1	0	2	0			4	1						
NEW HAMPSHIRE—																										
Dartmouth Medical College—R					2	1													1	0					2	0
NEW YORK—																										
Albany Medical College—R			1	0																						
College of Physicians and Surgeons—R			3	0	17	0			2	0			1	0					1	0					3	0
Cornell University Medical College—R						0									1	0										
Eclectic Medical College—E																										
Long Island College Hospital—R			0	1	2	1											1	0								
New York Homeopathic Medical College and Hospital—H			[illegible]	1	1	0																				
New York Medical College and Hospital for Women—H					1	[illegible]																				
University and Bellevue Hospital Medical College—R			3	5	11	[illegible]			2	0	2	0			1	0	1	0			[illegible]	0			1	0
Syracuse University College of Medicine—R					2	0																				
University of Buffalo, Medical Department—R			1	[illegible]																						
Niagara University			1	0	1	0																				
NORTH CAROLINA—																										
Leonard Medical School—R											3	0														
North Carolina Medical College—R																										
Medical Department University of North Carolina																										
OHIO—																										
Western Reserve University Medical College—R			1	0													1	0								
Cleveland College of Physicians and Surgeons—R			[illegible]	1																						
Cleveland Homeopathic Medical College—H			0	1					0	1					1	[illegible]	1	0			1	[illegible]				
Eclectic Medical Institute—E			0	1											3	1	4	2	0	2	1	0				
Laura Memorial Woman's Medical College—R			1	0													1	0								
Medical College of Ohio—R			2	0											1	0	7	0								
Pulte Medical College—H			1	0													1	[illegible]								
Miami Medical College—R																	2	0	1	0						
Ohio Medical University—R			1	0													2	2			1	0				
Starling Medical College—R					0	2											1	0								
Toledo Medical College—R																										
Cincinnati College of Medicine and Surgery					1	0											1	0								
OREGON—																										
University of Oregon Medical Department—R																										
Medical Department, Willamette University—R																										
PENNSYLVANIA—																										
University of Pennsylvania Department of Medicine—R	1	0	5	1	3	0	2	0	3	0	1	0			0	1	1	0			1	0	1	0	4	0
Hahnemann Medical College and Hospital—H					4	0			4	0							2	0							1	0
Jefferson Medical College—R	2	0	2	0	6	1	0	1			2	0	2	1	2	0	5	0	2	0	1	0	[illegible]	0	2	0
Woman's Medical College of Pennsylvania—R					[illegible]	0	1	0	1	1																
Medico Chirurgical College of Philadelphia—R			1	0	3	1	2	0									1	[illegible]								
Western Pennsylvania Medical College—R																										
SOUTH CAROLINA—																										
Medical College of the State of South Carolina.—R					1	0																				
TENNESSEE—																										
Tennessee Medical College—R																							1	0		
Medical Department of University of Nashville—R											3	0											7	1		
Vanderbilt University Medical Department—R	1	0	1	1							2	0											1	1	1	0
University of Tennessee Medical Department.—R	2	0																			1	0	3	0		
Meharry Medical College—R			0	1							5	1			1	0			0	2			1	3		
Memphis Hospital Medical College—R	1	0																					5	6		
Sewanee Medical College—R			0	2	[illegible]	2					4	0											6	3	1	0
Chattanooga National Medical College—R																										
Chattanooga Medical College—R	2	0									1	0									1	[illegible]			1	0
TEXAS—																										
Medical Department Fort Worth University—R																							1	0		
University of Texas Department of Medicine—R																										
Baylor University College of Medicine																										
Dallas Medical College—R																										
VERMONT—																										
University of Vermont Medical Department—R			0	1	7	1																			1	0
VIRGINIA—																										
Medical College of Virginia—R																										
University College of Medicine—R																										
University of Virginia Department of Medicine.—R									2	0	1	0														
WISCONSIN—																										
Milwaukee Medical College—R					1	0									2	0			1	0						
Wisconsin College of Physicians and Surgeons—R																										
CANADA—																										
University of Toronto Medical Faculty					1	1							1	0			2	0	1	0						
Ontario Medical College for Women																										
Queen's University																			1	0						
Medical Department of Western University																										
University of Bishop's College Faculty of Medicine																										
McGill University Faculty of Medicine			[illegible]	1	1	0									0	1					1	0			6	0
Université Laval Faculté de Médecine			0	1											1	0									5	0
Manitoba Medical College																			1	0						
FOREIGN	1	0	4	8	1	0									9	[illegible]	2	0	3	0			0	1		
Totals by states	18		226		151		11		59		85		45		591		157		313		48		156		73	
Totals—Passed	18		152		128		7		46		73		31		559		141		273		43		132		73	
Totals—Failed			74		23		4		13		12		14		35		16		40		5		24			
Percentage of failures	0 0		32 7		15 2		36 4		22 0		14 1		31 1		5 9		10 2		12 8		10 4		15 4		0 0	

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*Reports from one or two examinations not received.

COMPILED FROM REPORTS OF STATE BOARDS (SEE EDITORIAL)

Maryland		Massachusetts		Michigan		Minnesota		*Montana		New Hamp		New York		No Carolina		No Dakota		Ohio		Oklahoma		Oregon		*Pennsylvania		Rhode Island		So Carolina		So Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Totals	Passed	Failed	Percentage of Failures
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F				
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		1	0									32	3																									1	0									38	35	3	7 9
		3	1							2	0	121	7	3	0	1	0									2	0			1	0			1	0	1	0	1	0			1	0	[illegible]	0	1	0	175	167	8	4 6
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		8	2			1	0	1	0	0	1															1	0											1	0									22	18	4	18 2
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		12	3	3	0	0	1					53	16					1	0					1	1	3	4							3	0	1	0			0	1					1	0	133	98	35	26 3
142		306		21		206		25		33		688		103		74		104		38		35		388		67		51		20		84		137		33		46		173		138		118		61		5027	4312	715	14 2
10		263		19		163		17		29		633		77		60		98		19		32		337		52		47		17		78		116		30		42		134		115		102		54					
40		43		2		43		8		4		55		26		14		6		19		3		51		15		4		3		6		21		3		4		39		23		16		7					
28.2		14 1		9 5		20 9		32.0		12.1		8 0		25 2		18.9		5 8		50 0		8 6		13.1		22 4		7.8		15 0		7 1		15 3		9 1		8.7		22.5		16.7		13 6		11 5					

Therapeutics.

Hay Fever

Parsons, in the *Med Record* for July 16, 1904, discusses the treatment of this condition under the following three heads 1 Constitutional 2 Local 3 Treatment of the exacerbation

1 On account of the frequent occurrence of the disease in those persons with a neurotic temperament, the treatment should be directed toward building up the tone of the nervous system For this he recommends (a) The daily cold plunge, to be taken immediately on rising, or for those not robust, cold sponging of the neck and chest The bath should be begun several weeks before the usual time for the hay fever to make its appearance (b) The mode of life, diet, and exercise should be regulated (c) Wear suitable clothing and use especial care to prevent cooling off too suddenly after perspiring Avoid unnecessary exposure to drafts (d) The sleeping room should be ventilated (e) Tonics, such as strychnin, arsenic and phosphorus, are indicated 2 The nasal cavities should be examined, preferably two months before the hay fever season If any chronic inflammatory condition be found it should be relieved, if any obstruction to the nasal passages is present it should be removed All sensitive points should be touched with a caustic, such as a solution of nitrate of silver This plan of treatment may need to be renewed at the same period for two or three years before marked improvement in the severe cases can be expected 3 Treatment of the exacerbation Locally the author suggests some spray of a mild alkalin solution, followed by adrenalin solution as a spray in the proportion of 1 to 5,000 in normal salt solution The strength may be increased as found necessary It is best to follow this with some bland oily spray

For the general treatment of the exacerbation the author refers to the strong plea made by other authorities for the so called uric acid theory in the production of hay fever and the recommendations for the active treatment of this diathesis six weeks or two months before the expected onset of the exacerbation He suggests the administration of aromatic sulphuric acid, or phosphoric acid, for a time, followed by small doses of salicylate of sodium, three grains three times a day, and cutting off the acid producing drinks such as beer, wine, cider, lemonade, etc Avoid meat, strawberries coffee, tea meat extracts, vinegar, sour pickles, preserves, sugar, potatoes and other starchy foods Ham and bacon may be allowed The diet should consist principally of cereals, eggs, fish, fresh fruit, vegetables, milk and cocoa Water should be drunk freely

For internal medicinal treatment the author recommends the saccharated extract of the dried suprarenal gland, in doses of two grains, three times a day, beginning about two weeks before the attack of hay fever usually occurs, given with a view to retarding and mitigating the attack so far as possible

Camphor will often give temporary relief in hay fever, administered five drops every fifteen minutes for the first hour and repeated at longer intervals as required

COLD APPLICATIONS

Aside from the medicinal measures relief may be obtained from the use of a cold spinal douche, for from fifteen to thirty seconds, at a pressure of twenty to thirty pounds to the square inch, at a temperature of 60 degrees Patients soon become used to the douche if properly administered and followed by a brisk rub If an apparatus for the douche is not at hand, water from a pail should be dashed over the patient's back, the operator standing at a distance

CLIMATE

Change of climate benefits a large number of *patients*, a sojourn among the mountains benefits some, others obtain most relief at the sea shore especially from the surf bathing The surf bathing acts as a general stimulant and locally, by the force with which it enters the nostrils, to induce contraction of the capillaries and dilated veins Patients should not remain in the water long enough to chill The associated asthma and bronchitis may require special treatment The author advises against the use of opium or cocain in any form Patients should be advised against the use of tobacco and alcoholic stimulants during the exacerbation They should be further cautioned not to ride in the dust when that is known to bring on an attack

The following is recommended as a bland oily and sedative spray, to be used after the adrenalin solution

℞	Acidi carbolici		
	Mentholi, āā	gr i	06
	Camphoræ	gr v	30
	Liq albolin	℥i 30	

M Sig Use locally as a spray for the nose

Medicolegal.

Validity of Medical Practice Act—Association of American Medical Colleges Standard—The Supreme Court of California says, *ex parte* Gerino, where a rehearing has been denied, that the act of Feb 27, 1901, for the regulation of the practice of medicine and surgery, provides, with respect to the membership of the board of examiners, that "five members thereof shall be elected by the Medical Society of the State of California, two members thereof by the California State Homeopathic Medical Society, and two members thereof by the Eclectic Medical Society of the State of California" The power of the state to constitute such a board, and to impose restrictions on the right to practice medicine, to be enforced by the board, rests entirely on the theory that such regulations are for the general welfare, and specifically to protect people from the arts of quacks and pretenders and from the mistakes of incapable practitioners The societies named, by receiving this power of appointment, are constituted agencies of the state to perform a part of the duty pertaining to the sovereign power of the state, and they are not, in that respect, the recipients of private rights or privileges It may be true that in making these appointments each medical society will choose persons who believe in the school of medicine of which its members are composed This, however, does not render the law unconstitutional The board, when appointed, must act equally for the benefit of all applicants, and impartially with respect to each, regardless of the school of medicine to which they belong Moreover, even if method provided in the law for the appointment of the members was invalid, and other provisions of the law would stand unaffected There would then be a legal office established, without any specific provision for the appointment of any person to fill it, and the vacancy thus existing could be filled by appointment of the governor But, as it would be a legal office, it could be filled by a de facto officer, and in that case the validity of his appointment and his right to hold the office could not be questioned in a proceeding in habeas corpus Nor does the court think the act rendered unconstitutional by the provision that the applicant for examination must produce a diploma issued by some legally chartered medical school, the requirements of which "shall have been, at the time of granting of such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year" It says that the law on this point is not to be construed so as to require these colleges to have the identical course of study and other requirements prescribed by the association The standard of scholarship required is that it shall be equal to the standard required by the association It need not be the same course of study, nor the study of the same text books, nor the attendance for the same length of time, but it must be such as requires of the student a degree of proficiency in the studies necessary to prepare him for practice equal to that which would ordinarily be produced by the requirements prescribed by the association Whether or not the Association of American Medical Colleges is composed of those only which teach the allopathic branch of that profession, the court can not say, but, admitting it to be so it can not say that there is in this provision of the law, thus understood, an arbitrary or unjust discrimination against other schools Surely they would not claim the right to have their adherents admitted to practice the profession on a less degree of proficiency in the preparatory studies than is required of those in the regular school It being proper for the legislature to demand some standard of efficiency, the court thinks it equally within its power to declare that it shall be the same as that prescribed from time to time by an association composed of colleges devoted to the work of preparing persons for the profession It says that evidently the standard of proficiency in scholarship as a preparation, and the particular studies necessary to secure a fair preparation, must change as the discoveries in natural science open new fields of investigation, and suggest or reveal new curative agencies The legislature can not successfully prescribe in advance a standard to meet these new and changing conditions Lastly, the court says that it was not necessary to consider whether or not the provision for reciprocity is constitutional Conceding, but not deciding, that such provision is void, it did not affect the other provisions of the act under which the petitioner was held in custody on the charge of practicing medicine without a certificate from the state board of medical examiners

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Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia.

July 30

1 Treatment and Control of the Tuberculous Patient in the Home Lawrence F Flick
2 Edema. Consideration of the Physiologic and Pathologic Factors Concerned in Its Formation S J Meltzer
3 *Immediate Repair of Laceration of the Perineum with Special *Reference to Placing the Sutures in Position Before* Laceration Takes Place A Lapthorn Smith
4 *Carcinomatous Transformation of Ulcer of the Stomach John Dudley Dunham
5 *Treatment of Gonorrhea A Clinical Study Henry T Byford.
6 Persistence of Certain Racial Characteristics Pearce Kintzing

3 —*See abstract in* The Journal, *xlii, p* 1584

4 **Carcinomatous Transformation of Gastric Ulcer**—Dunham is of the opinion that cases of carcinomatous transformation of ulcer of the stomach are probably more frequent than is currently believed Treatment may be along surgical lines with a reasonable hope of prolonging life, and along medical lines in a palliative manner A most important phase of this question is the diagnosis and prophylaxis In the majority of cases the indications of ulcer continue until the malignant invasion It is rarely possible to find a tumor The chemic and microscopic findings in the stomach contents are not characteristic of cancer until late in the progress of the disease An increase in the hydrochloric acid, usually noted until very near the fatal issue, often misleads in the diagnosis In another class of cases the ulcer symptoms continue until the end, and in a third class the ulcer symptoms may have subsided for months, or perhaps years, and a recurrence of digestive difficulties seems to indicate a return of the ulcer, but in reality they are due to the beginning of the malignant growth Having established the presence of ulcer, the physician should impress on the patient the gravity of his case He should insist on the importance of appropriate treatment, such as rest in bed, with rectal alimentation, followed by milk diet over a period of perhaps four weeks Under such a course of treatment the symptoms may become more marked The patient may have paroxysms of pain three or four times a day after taking food, and under such circumstances, with the stomach contents showing increased acidity, we may be fairly certain that the diagnosis is canceration of the ulcer Speaking of prophylaxis, Dunham says the proper treatment medically of simple ulcer in its first manifestations is a preventive measure which physicians should enforce rigidly Gastro enterostomy by a skillful surgeon should be employed in intractable chronic ulcer to prevent cancer development A recurrence of digestive disturbances after a history of ulcer with apparent recovery should be treated at once Surgical interference is successful only when resorted to early, in cases of development of cancer on ulcer

5 —*See abstract in* The Journal, *xlii, p* 1585

New York Medical Journal

July 30

7 Removal of Obstructions and Cicatricial Contractions of the Nose by the Plastic Method John O Roe
8 Lentigo Unilateral Distribution Report of a Case John Irvine McKelway
9 *Some Notes on Riggs Disease and Its Treatment George F Souwers
10 Consideration of Some Points in Obstetrics Helen Hughes
11 *Report on the Curricula of American Medical Colleges* (Concluded) George W Webster
12 Regulation of the X ray Tube J Sherman Wight.
13 Reflections on the Financial Status of the Medical Career Nathaniel G Price

9 **Riggs' Disease.**—Souwers emphasizes the importance to the practitioner of knowing more about the treatment of Riggs' disease *The family history is as important as the patient s personal history and should receive proper attention if any treatment is needed* Locally, the mouth should be cleansed with hydrogen peroxid, dilute aromatic sulphuric acid, sodium carbonate and borax The mouth is then cleansed thoroughly with water and dried, after which sulphate of quinin is dusted along the seat of the disease and lightly packed between the teeth. The patient should use a mouth wash two or three times daily, at bedtime, or other convenient period, he should rinse the mouth with milk of magnesia or a solution of magnesia, the portion of the drug precipitated *or adhering to the teeth, etc , not being removed by subsequent* washing Mouth washes containing tincture of myrrh are not advisable, because myrrh is precipitated by contact with the watery secretions of the mouth, and at times finds lodgment between the gums and the necks of the teeth, thus acting as a foreign irritating body As an aid in the relief of the gum congestion, a 1 to 1,000 solution of adrenalin acts nicely, particularly in the declining stage of the inflammation In those cases in which the teeth are sensitive to temperature changes, relief may be obtained by adding a few drops of phosphoric acid to oxid of zinc and applying a thin layer of the mixture to the painful area A coat of sandarac varnish will serve as a temporary expedient This treatment, if carried out carefully, always gives the desired result

Medical News, New York.

July 30

14 *Eye-strain and the Psychoses Charles L Dana
15 Migraine and Sick Headache Colman W Cutler
16 *Relation of Epilepsy Chorea and Other Motor Disturbances of the Nervous System to Eye Disease. B Sachs
17 Eye Symptoms of Hysteria Neurasthenia and the Traumatic Neuroses. Ward A Holden
18 Intrahepatic Cholelithiasis (To be continued) Edwin Beer
19 Value of a Knowledge of Abnormal Mobility of the Iris as an Aid in Diagnosing Diseases of the Nervous System. D Kerfoot Shute.

14 **Eyestrain and the Psychoses**—Dana says that alienists do not recognize eyestrain, even as a contributing cause He has seen a few cases of eyestrain with apparent bad results mentally, in students It seemed as if the eyestrain really led to a kind of exhaustion psychosis—a mental confusion—so that they could no longer read or study, or remember This condition was accompanied by apathy and depression and lack of general interest The eyes showed refractive errors and secondary muscular strain Recovery came very quickly in most cases after rest and proper glasses He believes it wise to have the eyes of psychopathic children examined carefully After sixteen years of watching he has found hardly any cases in which eyestrain is an important and direct factor in establishing even a minor psychosis, though it modifies its symptoms and secondarily adds to the disturbance The visual function is largely automatic and spinal, and when the mind is a good mind, the visual machinery *does not* overthrow or directly and seriously affect it When the mind is unstable or the body weakened cerebral eyestrain plays its part and when the mind is unstable and the visual machinery is very poor, even spinal and migraine eyestrain may do some harm Dana suggests that "glassing" has become something

of a minor psychosis He does not think that our mental balance and nervous wellbeing are so entirely at the mercy of slight defects in an organ that has been perfected by millenniums of use and misuse

16 Eyestrain and Motor Disturbances of the Nervous System—The relation of diseases of the eyes to functional nervous disorders characterized by motor phenomena is discussed by Sachs He is convinced that not a single case can be cited in which the cure of a genuine epilepsy followed the relief of any one of the many "phorias" with which oculists are pleased to puzzle us The evidence furnished from time to time by advocates of this special doctrine is wholly untrustworthy What is true of epilepsy applies also to the relation of eyestrain and other ocular conditions to chorea minor The idea that it might be due to some slight lack of adjustment in the ocular apparatus is too absurd to be considered even for an instant In cases of so called "habit chorea" it is well to have the patient examined carefully for his ocular as well as for his nasal condition, and any existing defect, however slight, remedied It is these cases of habit chorea, and not cases of chorea minor that are relieved by such treatment as a competent oculist may suggest A careful distinction must be drawn between these two diseases The relationship between ocular affections and epilepsy, chorea and convulsive tic may be a close one in the minds of same "faddists," but it must remain a very remote one in the minds of those who have no special axes to grind and no particular therapeutic territory to exploit

Boston Medical and Surgical Journal

July 28

20 Congenital Dislocation of the Hip E H Bradford R W Lovett E G Brackett Augustus Thorndike and John Dane
21 *A Meteorological Study of the Winter of 1903 4 Carroll E Edson
22 Implantations of Silver Filigree for Cure of Large Ventral Hernia Report of Two Cases H B Perry

21 A Meteorologic Study—Some of the meteorologic data of the winter of 1903 04, as prevailing in various parts of the country, teach a lesson of therapeutic value Edson undertook this work, selecting for study only the period of winter from Nov 1, 1903, to April 1, 1904—a period of five months or 152 days, and took the following cities Boston, New York, Philadelphia, Buffalo, Chicago and Denver The article contains a number of tables showing the mean temperatures, the mean maximum and mean minimum temperatures, the average daily excess or deficiency of temperature over mean of 33 years, number of days with maximum temperature 32 F or lower, mean relative humidity, sunshine, number of cloudy, partly cloudy and clear days, precipitation in inches, and wind He says that climate is not a thing in itself, it is only the conditions of sun and rain and heat and cold and wind prevailing in any place It is not a treatment for anything, but in a disease in which our weapons are discipline, food and outdoor life, a study of meteorologic conditions will enable us to place the patient where he can obtain the best opportunity for living that outdoor life most constantly and most comfortably All weather is not the same all fresh air is not equally good, but a location like that of Denver offers, by the conditions of its climate, its lack of storm, its absence of cloud, its warmer sunshine, definite advantages for the outdoor life so essential to the welfare of the tubercular individual

Medical Record, New York.

July 30

23 Age and Youth in Medicine W W Keen
24 Observations on Radium Max Einhorn
25 *Tic Charles J Aldrich
26 Some Phases of Chronic Laryngitis Z L Leonard
27 Recent Progress in Genito-urinary Surgery Martin W Ware

25 Tic—Aldrich discusses tic, as distinguished from chorea, at great length, and describes cases illustrative of the various classes The following is the classification of tic which he has adopted 1 Involutional tic, the so called senile acquired tic of other writers 2 Evolutional tic, or the so-called early tic The first variety usually presents itself in the simple form, but not rarely may be quite complex and even associated with psychic stigmata Evolutional tic may be divided into (*a*) degenerative evolutional tic, a morbid manifestation on the part of a degenerative nervous system usually inherited but possibly acquired, (*b*) acquired evolutional tic, (*c*) imitative evolutional tic His definition of tic is "Evolutional tic is a psycho neurosis, in which a subconscious idea tends to arise spontaneously and force recognition by externalizing itself in expressed thought (*tic de pensée*), or in a more or less automatic repetition of some stereotyped movements which are identical with volitional acts—co ordinate tic"

Cincinnati Lancet-Clinic.

July 30

28 Gastrectasia, Its Clinical Significance and Treatment D B Conklin
29 Pyuria G S Van Horn
30 Dilated Heart D C Houser

St. Louis Medical Review

July 16

31 Report of Twenty Cases of Typhoid Fever Clarence A Good

Physician and Surgeon, Detroit and Ann Arbor

May

32 *The Present Status of Streptococcus and Tetanus Antitoxin Injections Victor C Vaughan
33 What Light Does Our Recent Knowledge of Tetanus Throw on Other Muscle and Nerve Affections David Inglis

32 Streptococcus and Tetanus Antitoxin—The present status of streptococcus and tetanus antitoxin injections is discussed by Vaughan, and he reviews the work done in this field by Marmorek, Moser, Tavel and other investigators, both in the laboratory and the clinic Many of these streptococcus sera are practically valueless against either weak or virulent cultures of the organism The results obtained by various clinicians have been extremely variable, and while one man strongly indorses a particular serum, another just as strongly and unequivocally condemns it The results obtained from the use of this serum are so variable as to cast considerable doubt and uncertainty over its efficacy in the treatment of streptococcus infections It is evident that our knowledge of the streptococcus toxin is deficient, and before a satisfactory antistreptococcic serum can be prepared we must be able to prepare a soluble streptococcus toxin The various sera now on sale are all made very carefully and with the best of intent Each investigator has prepared what he believes to be the only true antitoxin, but they are all alike in their inefficacy There is at present no satisfactory method of standardizing antitetanic serum, and we are quite ignorant of the value of any preparation we are employing There is, however, apparently no danger of using too much, as it has been shown that antitetanic serum is harmless Its prophylactic value has been demonstrated repeatedly, and Vaughan recommends that prophylactic doses be given whenever the physician is called on to dress a wound which in his opinion might be infected with tetanus bacilli, and that this injection be repeated on the third, fifth and seventh days after the infliction of the injury

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

British Medical Journal, London.

July 23

1 Dosage of Isolated Mammalian Heart by Chloroform C S Sherrington and S C M Sowton
2 Report on the Form of Chloroform Inhaler A Vernon Harcourt
3 Estimation of Chloroform Dissolved in Blood D B Byles, A V Harcourt and Victor Horsley
4 *Use and Abuse of Midwifery Forceps J A C Kynoch
5 Present Position of Radium in Therapeutics with a Summary of the Finsen Light and X ray Treatment C M O Brien
6 Some Results of Treatment by X rays, High Frequency Currents and Ultra violet Rays J Alfred Codd
7 Colitis Polyposa Frank Pope
8 Fatal Case of Cyanosis with Enlarged Spleen Theodore Fisher

4 Use and Abuse of Midwifery Forceps—This subject is discussed fully by Kynoch, who believes that the forceps are used too often by men without the necessary experience in their use, and that the mortality is thereby much higher than is necessary This statement is borne out by the lower mortality rate in hospital practice than in private practice It has not yet been proved that by a frequent application of the forceps a very large saving of fetal life is obtained, but the figures at our disposal show at least a slight saving, with equally good results for the mother In the hands of a skillful operator, the condition being satisfactory for the application of the forceps, a moderately frequent use of the instrument is to be recommended Too little knowledge in the technic of the application of the forceps, and over confidence in the safety of the abundant use of antiseptics, are responsible for many of the pelvic lesions following instrumental delivery The abuse of the forceps will disappear to a great extent when medical students can obtain a sound practical training in obstetrics before they can present themselves for graduation, as is the case in the German universities Although the student may not acquire any great degree of skill or dexterity during a brief residence in a maternity hospital, yet he would learn such important details as the position of the child's head and methods of pelvimetry which would prevent one frequent abuse of the forceps, viz, in contracted pelvis

The Lancet, London.

July 23

9 Bright's Disease and Its Varieties John Rose Bradford.
10 Post graduate Demonstration on Rheumatoid Arthritis Charles J Macalister
11 One Hundred and Ten Cases of Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ P J Freyer
12 *Method of Closing an Abdominal Wound. John D Malcolm
13 Education of Visual Centers. W Hamilton Hall
14 *Radical Cure of Umbilical Hernia B G A Moynihan.
15 Case of Excision of the Cecum Recovery J B Footner
16 Post diphtheritic Chronic Bulbar Paralysis Wilfred Harris
17 Case of Wilful Introduction of Foreign Bodies Into the Esophagus Death J H Tagett and Stanley B Atkinson
18 Use of Phenylhydrazin in the Clinical Examination of Urine W H Willcox.
19 One Form of Suppurative Appendicitis. Arthur C Roper
20 *Abdominal Pain of Intestinal Origin Frederick Holme Wiggin

12 **Method of Closing Abdominal Wound.**—Malcolm describes a method he has employed for some years in operating for the cure of herniæ in abdominal scars He avoids the middle line and cuts down on the rectus muscle, dividing it with his fingers, using the knife only if one of its tendenous intersections has to be divided The first ligatures are passed in through one side of the incision and out through the other side, with an interval of one or two inches between—nearer if the abdominal wall is thin, and further if there is much fat In order to approximate like tissues, the sutures must enter near the skin edge and pass deeply into the structures of the abdominal wall so as to describe a semicircle before being brought out close to the edge of the peritoneum, a similar deep grip of the structures is taken on the other side from within outward

14 **Radical Cure of Umbilical Hernia.**—Moynihan believes that the operation devised by Mayo surpasses all others and achieves a veritable "radical cure"

20—See abstract in The Journal, xlii, p 484

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 287

21 (LXVIII No 25) Cure of Neuralgia by Electrolytic Treatment with Morphin Ions and with Quinin Ions. S Leduc (Nantes)—Abstract.
22 *Treatment of Tuberculosis by Intra tracheal Injections Mendel Abstract.
23 Action analgésiante et névrosthénique du radium à doses infinitésimales et inoffensives Darier
24 *Application de l'hygiène à l'enseignement (to pedagogics) Mme Kachperov Macaigne.
25 L action hypertensive ou hypotensive des bains carbo-gazeux suivant leurs modes d emploi (carbonated baths) Lausedat.
26 *La tuberculose ganglio-pulmonaire dans l'école parisienne (in Paris schools) Grancher

22 **Intra-Tracheal Injections in Treatment of Tuberculosis.**—Mendel reports that fully half of 100 patients in various stages of tuberculosis were remarkably improved with intratracheal injections of 6 to 9 c c of eucalyptol in an oil vehicle The technic is so simple that no special experience or skill is required and the patients all submitted willingly to the injections

24 **Hygiene Culture, Application of Hygiene to Pedagogics**—This communication was read at the meeting of the Académie on May 31, the first time in its history that a woman was given the privilege of the floor Mme. Macaigne applies the term "hygiene culture" to the new method of pedagogics which she advocates Its principle is that the child from the first should be taught that the aim of all human culture is to be useful to others, and that the foundation for this culture is the development of the two principal faculties of the human being, goodness, which impels us to wish well to our neighbor, and intelligence, which teaches us how to be useful to him History, literature, philosophy, should all be taught on an entirely different basis from that at present employed, the evolution of peoples toward progress and goodness should be the points insisted on The main idea throughout the entire education of the child and youth should be that his studies are for the purpose of perfecting and augmenting his usefulness to the world at large Mme Macaigne has made an attempt to carry out some of her ideas in several of the Paris primary schools during the last two years, with gratifying results She insists that the true rôle of the physician is to form a new science of living, which will result in a rational cultivation of the human being as we cultivate plants to derive the finest fruits from them No living creature, she says, receives such unsystematic and capricious, whimsical care as the human being The cultivation of the child, both in respect to its physical functions and the development of its mind, is not based on rational laws to produce the best results for the individual and for society We need a science of living, and it is to medicine, which possesses in hygiene the rules of healthy living that the world looks to guide it toward this science

26 **Glandular-Pulmonary Tuberculosis in the School Children of Paris**—Grancher, assisted by a dozen of his present or former pupils, has been making a careful examination of all the school children in a certain Paris ward. They found that out of 896 children 141 were affected with latent but unmistakable ganglio-pulmonary tuberculosis. This is a proportion of 14 per cent of 438 boys, and 17 per cent of 458 girls The mere "suspects" are not included in these figures If they were, the figure 141 might possibly have to be doubled or trebled Application was made to the authorities and cod liver oil and meat powder were supplied for some of the affected children, while others were transferred to a children's sanatorium Grancher makes an earnest appeal that schools should be established in the country for these latent tuberculous cases, where the children can grow up healthy in country air The total number in the schools of Paris must be in the neighborhood of 20,000 to 25,000, judging from the proportions already ascertained If boarding schools in the country are an unattainable ideal for these city children, he suggests that they might at least be boarded out in farmers' families and attend the village schools [Kerley (The Journal, July 9, 1904), has recently suggested that one of the factors in the healthiness of children brought up in the country is that the articles of food are made at home The baker and the corner grocery are at too great a distance to be available—Ed]

Beitrage zur klin. Chirurgie (von Bruns), Tubingen.

Last indexed XLII pages 985 and 1624.

27 (XLI No 2) *Meniscus Luxation des Knie-Gelenkes C Schlatter (Zurich)
28 *Ueber Leucocyten Zählungen und deren Verwertbarkeit bei chirurgischen Affektionen. A. Reich (Tübingen)
29 Zur Kasuistik und operativen Behandlung der Bauchhöhlen Teratome (of abdominal cavity) E. Bayer (Prague)
30 Sweat Gland Tumors. O Klauber (Prague)—Schweissdrüsentumoren
31 *Genu recurvatum osteomyeliticum J Kisch (Prague)
32 *Ueber 828 operativ behandelte Hernien H Hilgenreiner
33 *Ueber retroperitoneale Lage der Milz (displacement of spleen) E Ehrich (Rostock)
34 *Aneurysma der Subclavia Oberst (Freiburg)
35 Ueber die Abscesse des Spatium prevesicale (Retzii) B Honsell (Tübingen)

27 **Dislocation of the Semilunar Cartilage of the Knee**—Schlatter adds 5 cases from Krönlein's clinic to those found in the literature, bringing to 62 the number of known instances of dislocation of the semilunar cartilage of the knee All but 17 were dislocations of the internal meniscus The luxation is always due to rupture of some kind, and it may

be suspected when there is sudden pain, resistance developing in the cleft in the joint and swelling of the joint capsule Contrary to von Bruns' experience, he found that the cartilage protruded more frequently during flexion while it disappeared in extension. The results were invariably fine in every case after operative intervention, although all had been long treated in vain by other measures In some rare cases, however, some trivial disturbance in the function of the joint developed in the course of years, slight atrophy of the muscle or limitation of extension

28 Leucocyte Count in Surgical Affections.—Reich's statements are based on examination of 138 cases of inflammation of cellular tissue, 24 of osteomyelitis and a large number of appendicitis and other serious inflammations in serous membranes When the leucocyte count stands at 20,000 for three or more days or constantly rises, a progressive suppuration may be assumed Diffuse peritonitis may be suspected when the leucocyte count decreases and the general condition grows worse in case of an existing intra abdominal suppuration, even when there are no other manifest clinical signs of the peritonitis His observations indicate that a high leucocyte count testifies rather against the presence of tuberculosis After trauma or operation the leucocyte count rises abruptly in the course of six to eighteen hours to a maximum of 16,000, and gradually returns to normal at latest in seventy-two to seventy eight hours He noted also this post operative, non septic leucocytosis after strumectomies, in which case it was in striking contrast to the high or constantly rising temperature curve The objection to this diagnostic measure is that several counts may be necessary for a decisive result, and this may delay the operation too long

31 Osteomyelitic Genu Recurvatum—Kisch describes 2 cases, both in 18 year old patients The epiphysis was forcibly liberated in the first case without the use of the knife, but this intervention induced fat embolism, rapidly fatal The danger of this should deter from bloodless reposition, he thinks, and advocates, instead, linear osteotomy at the point of the deformity, with extension and the covering of the cleft in the bone with the patella taken up in a flap comprising both skin and bone

32 Wolfler's Method of Treating Hernia—Hilgenreiner's communication has already been editorially mentioned in THE JOURNAL, page 1421 of the last volume The proportion of recurrences in the 828 cases operated on has been 7 3 per cent This compares favorably with the Bassini operation at Albert's clinic with 7 5 per cent recurrences The Wölfler technic is described in full It requires only twenty to twenty five — nutes and healing is complete on an average in 14 4 days Healing was by primary intention in all but 8 per cent during the last two years The advantages over the Bassini are the avoidance of complications from traction on the spermatic cord The herniotomy is generally done with local anesthesia alone

33 Retroperitoneal Displacement of the Spleen—A case is described in which serious symptoms were observed, attributed to an incarcerated wandering kidney Fixation of the spleen in its place banished all the symptoms Splenopexy, therefore, is sufficient in such cases and it is not necessary to remove the organ even in case of threatening symptoms

34 Aneurism of the Subclavian—Oberst reports a case from Kraske's clinic which brings the number on record to 188 Study of this material impels him to the conclusion that central compression is the best non operative treatment, and central ligature the most promising operative measure The results of peripheral ligation are uncertain, and extirpation is practicable only under remarkably favorable conditions Resection of the clavicle should always be done whenever necessary

Centralblatt f Chirurgie, Leipsic.

Last indexed page 288

36 (XXXI No 24) *Application of Elastic Band in Changing Dressings of Wounds on the Limbs L Isnardi (Turin)—Die Anwendung der elastischen Binde beim Wechsel des Verbandes von Gliederwunden

37 *Simple Method of Lifting Sunken in Nostrils S Kofmann (Odessa)—Eine einfache Methode des Wiederaufrichtens der eingesunkenen Nasenflügel

38 (No 25) *Ueber plastische Wander Lappen (migrating flaps) Steinthal (Stuttgart)

39 (No 26) First Dressing on Battlefield W J van Stockum Der erste Verband auf dem Schlachtfelde.

40 *Turning Back Costal Arch on Account of Impermeable Cicatricial Stricture of the Esophagus W Meyer (New York) Aufklappen des Rippenbogens wegen undurchgängiger Narbenstriktur der Speiseröhre.

36 Constriction of Limb as Aid in Changing Dressings.—The danger of hemorrhage and all inconveniences of changing the dressings on a limb are obviated by applying an elastic band to constrict the limb above the wound Isnardi has been utilizing this simple measure during the last two years, and announces that its advantages are obvious and manifold The blood pressure in the parts is reduced to zero and the blood vessels are emptied by the anemia induced. This not only prevents hemorrhage, but protects the delicate granulation tissue from injury He has used the Esmarch bandage or ordinary rubber tube, but has found a tube like that used in the Riva Rocci sphygmomanometer the best adapted for the purpose, as also for operations on a limb He applies the tube in a linen cover which can be sterilized The chief advantage of this tube is that it can be inflated and flattened out at any moment, without removing it from the limb, thus allowing the blood pressure to be shut off or restored without the trouble of removing the tube This is frequently an advantage in operating

37 Restoration of Sunken-in Nostrils—Kofmann gives illustrations of a patient to show the benefit derived by his method of paraffin prothesis supplemented by slitting the cicatricial tissue in the nostril intracutaneously, and then proceeding to progressive dilatation of the nostril with gauze tampons

38 Plastic "Wandering Flaps"—Steinthal was called on to supply a covering for a loss of substance on the right leg, involving the knee and back of the leg The patient was a girl of 5 who had been run over by a wagon The defect was too extensive to be covered by a flap from the other leg and he found it impossible to apply a pedunculated flap from the trunk in such a way as to fit it over the defect, as it was principally on the rear aspect of the limb He overcame these difficulties by taking a pedunculated flap from the left side of the trunk and inserting its free end in a gaping incision along the inner margin of the tibia in the sound leg, which was flexed and fastened against the trunk for the purpose The flap grew in the incision and its attachment to the trunk was severed the eleventh day, after which it was an easy matter to cover the defect with the transplanted flap hanging from the sound leg like an apron The flap was originally 10 by 17 cm in size, and the final healing was excellent preserving the knee region from functional disturbances The healing was delayed by the fact that the granulations of the wound had become infected, and two months elapsed before the granulations became healthy and the flap took root After this it healed rapidly and could be severed from the other leg in twelve days and sutured finally in place five days later

40 Costal Arch in Turned-Back Flap for Access to Esophagus.—A case is described and illustrated to show the peculiar advantages of surgical intervention on the lower part of the esophagus through an incision shaped like a flaring U, extending from the junction of the seventh costal cartilage with the sternum downward and up through the cartilages of the seventh to the tenth ribs at their junction with the latter, thus including the cartilaginous portion of the costal arch in the flap which was readily turned far back, freely exposing the diaphragm and allowing the esophagus to be drawn down into view Meyer is convinced that this incision would facilitate resection of the stomach or any intervention on organs in the vault of the diaphragm

Centralblatt f Gynakologie, Leipsic

Last indexed page 288

41 (XXVIII No 16) Calculation of Size of Conjugata vera from Conj diagonalis Krönig (Jena)—Die Berechnung der Grösse der Con vera aus der Conj diag

42 Eine modifizierte Kugelzange (ball forceps) O Frankl

43 Zur Technik der gynäkologischen Heissluftbehandlung (treatment with superheated air) Ibid

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Original Articles.

STATIC FOOT ERROR

ANALYSIS OF ONE THOUSAND CASES

WILLIAM E BLODGETT, M D
BOSTON

The object of this investigation was (1) to contribute to the sum of available statistics of static foot error, (2) to draw from the cases any warrantable conclusions

STATISTICAL SUMMARIES

The cases are from the Orthopedic Out-patient Department of the Carney Hospital, Boston, through the courtesy of Dr Painter, and include only those cases of foot trouble in which the chief factor appears to be static, i e, an error of weight bearing Thus acute and chronic arthritis of the foot, paralytic, circulatory, and recent traumatic and inflammatory conditions are excluded, but those cases are included in which any of the preceding causes determined a faulty static condition which itself had become the chief factor in the foot trouble The cases are the thousand next preceding Sept 1, 1903, and cover a period of two years and four months The data are from the hospital records and from the replies of 44 and the special visits of 125 patients in response to 600 postals

TABLE 1 —SEX RELATION TO TOTAL ORTHOPEDIC CASES

	Static Foot Cases	All Orthopedic Cases in Same Period	Per cent Static Foot Cases to all Cases
Male	426	1 162	36 7 per cent
Female	574	1 290	44 5 per cent
Totals	1 000	2 452	40 8 per cent

The female cases were in moderate excess, and the percentage of female cases to all the orthopedic female cases was slightly larger than the corresponding male percentage The static foot cases were about two-fifths of the total orthopedic cases in the same period

TABLE 2 —AGE[1]

		Per cent
12 to 19 years	166	17 0
20 to 29 years	260	26 6
30 to 39 years	234	24 1
40 to 49 years	181	18 6
50 to 59 years	96	9 9
60 to 69 years	35	3 6
70 to 79 years	2	2
Total	974	100 0
Unrecorded	26	

Two-thirds of the cases were under 40 years of age The seasons of the year in order of the frequency of application during them of static foot cases, the season of greatest frequency being first, are summer, spring, winter, fall There were entered in the summer on the average nearly twice as many cases as in the fall The total attendance of all new orthopedic cases, however, shows much the same seasonal fluctuation

TABLE 3 —TIME OF YEAR.

	Static Foot Cases	Total Orthopedic Cases	Percentage Static Foot Cases to Total Orthopedic
May 1901	31	95	32 6
June 1 to Sept 1 1901	109	216	50 5
Sept. 1 to Dec 1 1901	52	144	36 1
Dec 1901 to March 1 1902	73	174	42 0
March 1 to June 1 1902	128	305	42 0
June 1 to Sept. 1 1902	129	332	38 9
Sept 1 to Dec. 1 1902	78	215	36.3
Dec. 1 1902 to March 1 1903	93	240	38 8
March 1 to June 1 1903	144	387	37 2
June 1 to Sept. 1 1903	163	438	37 2
Total	1 000	2 546[2]	

TABLE 4 —OCCUPATION

		Per cent.
Housework (wife)	176	23 6
Housework or cooking (hired)	89	12 0
Clerk	36	4.8
Mill or factory	34	4 6
Laborer	32	4 3
Railroad	28	3 8
Waiter	24	3 2
Unclassified, requiring standing, as washerwoman barber bartender, etc	147	19 7
Unclassified, not requiring standing	179	24 0
	745	100 0
Occupation unrecorded	255	

The relation of occupation to static foot error is illustrated by the following Of 14 surface car motormen with static foot error, 7 had symptoms in only the left foot (the foot supporting the body-weight, the right being used to operate bell and brake), 2 had symptoms in both feet, but worse in the left, 4 had symptoms in both feet equally, and only 1 had symptoms in the right foot only, and in this case the left was objectively the worse The weight-bearing foot, therefore, was affected alone in half the cases, whereas the free foot was affected alone in only one case, and in this case the weight-bearing foot appeared objectively the worse

ETIOLOGY

TABLE 5 —ETIOLOGY

Trauma	85
Acute rheumatism' or other arthritis including gonorrhea	88
Excessive weight (over 180 pounds) or sudden increment of weight, as at the menopause	22
Illness just preceding onset of symptoms	22
Postpartum	12
Congenital i e said to have existed since birth and presenting though at an early age a foot completely flat with scaphoid dislocation	6

The figures in Table 5 understate the absolute frequency of operation of the respective causes in the thousand cases, because often no record was made, but they may be regarded as representing the relative frequency of the causes tabulated Cases of foot error, in which the present general condition or non-static local condition appears to be the more important factor, are, as stated above, not included in the thousand cases, thus explaining the absence of present frank polyarthritis in a review of the causes of these cases Certain conditions, local and general, though perhaps not direct causes, have been noted as predisposing or contributing to the weight-bearing error and to the liability to symptoms therefrom. Local (1) Long, slender foot, (2) hallux valgus. General (1) Mild, fleeting polyarthritic symptoms, probably toxemic, (2) depression of physical vigor, without local symptoms, except in feet, as shown by soft muscles, pale skin and mucous membranes, excessive complaining without effort at self-help, and general indolence of body and mind.

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[1] Cases under 12 years were not treated

[2] Including 94 orthopedic cases with diagnosis unknown. In figuring the percentage to total orthopedic cases in a previous table, these cases were excluded, as some of them were probably static foot cases.

The commonest direct cause was trauma. (It may be questioned whether the trauma, for instance, a sprain, was not sometimes, rather than the cause, more the result of a static error already existent.) In many cases no satisfactory cause was found.

TABLE 6.—RIGHT, LEFT, OR BOTH

		Per cent
Right only	140	14.9
Left only	152	16.2
One side only (not specified)	28	3.0
Both	618	65.9
	938	100.0
Unrecorded	62	

In about two-thirds of the cases, therefore, both feet gave symptoms, though often not beginning at the same time. In the remaining cases, the symptoms were about equally divided between the right and the left. It was not rare to find the symptomless foot used in objectively the worse position.

TABLE 7.—DURATION AT ENTRANCE

		Per cent
One month or less	105	12.7
One to 6 months	278	33.8
Six months to 2 years	251	30.8
More than 2 years	188	22.7
	822	100.0
Unrecorded	178	

In slightly less than half the cases the duration of symptoms at entrance was six months or less. The duration of symptoms, however, was often entirely disproportionate to what must have been the duration of the deformity, only a week or two of pain being not uncommonly attributed to at least a year's or two flat-foot. Moreover, as shown in several investigated cases, a patient, especially of the working class, learns to spare his feet unconsciously, and, until he suffers a decided increase of pain, due perhaps to some unusual exertion, he regards what discomfort he has as natural fatigue. It is believed, therefore, that the duration as tabulated is too short.

TABLE 8.—SYMPTOMS

		Per cent.
Pain in feet only	643	68.1
Pain in feet and above	244	25.9
Pain wholly above feet	21	2.2
Disability or deformity (practically painless)	36	3.8
	944	100.0
Unrecorded	56	

In slightly more than 95 per cent. of the cases, therefore, pain was the leading symptom, and in slightly more than two-thirds of these painful cases the pain was in the feet and ankles only. Special interrogation of 125 cases, however, would seem to show that this proportion of cases with pain wholly confined to the feet or ankles is too large. Of the 36 painless cases 19, or more than half, were under twenty years, although of the whole thousand only one-sixth were under this age.

TABLE 9.—LOCALIZATION OF PAIN IN THE FOOT

Astragalo-scaphoid articulation (and immediate vicinity)	164
Heads of metatarsals	116
Center of heel (plantar surface)	106
Sole generally	30
Between external malleolus and cuboid	24
Plantar surface of head of first metatarsal	8

The pain in the foot was often variable and diffuse so that the patient could not refer it to any exact site. The records, moreover, usually mention the "foot" or the "ankle" as the location of the pain. Table 9 gives the exact data as far as obtained. When pain was referred definitely by the same patient to two distinct spots the case was entered in the table twice.

Pain in the foot, therefore, usually diffuse or variable, when localized, was most frequently referred to the astragalo-scaphoid joint.

TABLE 10.—LOCALIZATION OF PAIN ABOVE THE ANKLE ASSOCIATED WITH PAIN IN THE FOOT

Calf (including front of tibia)	147
Knee	73
Back	32
Hip	14

When pain was definitely referred by the same patient to two parts, as the knee and the back, it is entered twice, thus making the total larger than the whole number that had pain above the ankle associated with pain in the foot.

The calf, therefore, was much the commonest place for pain above the ankle associated with pain in the foot.

LOCALIZATION OF PAIN WHOLLY ABOVE THE ANKLE

Of the 21 cases of static foot trouble without subjective foot symptoms 13, or more than half, had pain only in the knee, usually over the internal condyle, and 4 others had pain in the knee associated with pain elsewhere above the ankle. In these cases the examination of the knee was negative, except perhaps for slight hyperemia of the joint membranes. Exact figures can not be given, but in several of the cases the causal relation of the static error in the foot to the knee trouble was attested by prompt improvement of the knee following correction of the foot. The relation of static foot error to knee symptoms as seen in the clinic is commoner than the thousand cases would thus indicate, for cases of well-developed simple villous arthritis of the knee are found frequently associated with pronated or flat feet, but, although the static foot error may well have been the fundamental cause, and although part of the treatment is directed to the feet, these cases could not justly be grouped with the static foot cases, as the static foot element in them, whatever its causal importance, was no longer the chief factor.

TYPES OF STATIC FOOT ERROR

To give the exact figures compiled regarding the types of deformity affecting chiefly the longitudinal arch would imply accuracy that is unwarrantable, for the nomenclature of the records has not been always uniform, and the types themselves are not distinct. In general, however, much the commonest type, occurring oftenest in massive feet of full-grown adults, was a moderate rotation of the sub-astragaloid tarsus about an antero-posterior axis into a valgus position, together with considerable depression of the longitudinal arch during weight-bearing, but without much abduction of the forefoot, i. e., not much rotation outward of the foot anterior to the astragalus about a supero-inferior axis (patient standing). Without weight-bearing, the longitudinal arch in this type is normal or only slightly flattened, and during weight-bearing the arch is never entirely lost. The foot is relaxed and spread out. The next commonest type, occurring oftenest in slender feet, was moderate valgus, decided abduction of the forefoot, and an arch unusually high even during weight-bearing. The deformity in both these types is pronation, but with difference in the relative amounts of the three clinical components of pronation—valgus, abduction and depression of the longitudinal arch The common incidence of a general type of deformity with a general type of foot, as noted above, suggests a determining difference in the internal conformity of the types of feet, especially of the calcaneo-astragaloid facets, as alluded to by Lovett and Cotton[3] Other types observed were (1) the thoroughly flat foot, with prominence of the scaphoid, (2) flattening of the arch of relaxed feet in weight-bearing, without commensurate pronation, due to apparently direct depression, (3) pes cavus or the contracted foot, with short tendo Achillis, but no other evidence of paralysis

In nearly all the cases the anterior arch was involved to some extent, in 156 cases, notably spread and flattened, and in 116 cases, as tabulated, painful In 68 cases, the concurrence of spreading and flattening of the anterior arch, distinctive pain at the heads of the metatarsals (almost always centering at the head of the fourth metatarsal), and usually callous under the anterior arch, made the distinct diagnosis of broken anterior arch Of these cases, 41, or about three-fifths (only 2 9 per cent more than the percentage of total female static foot cases), were women, 10 (2 men and 8 women) had had the definitely characteristic, sudden attacks of excruciating matatarsalgia, relieved by removal of shoe

The degree of deformity, whatever its type, was no indication of the severity of symptoms A few of the cases complaining of pain had feet apparently normal, but were relieved by treatment of the inferred static error

TABLE 11 —CONGESTION VARICOSITY HALLUX VALGUS

Congested	65
Varicose veins	45
Hallux valgus marked (Minor grades common)	77

Of the 77 cases of marked hallux valgus, 14, or 18 2 per cent, suffered from definitely broken anterior arches, while in the 1,000 cases the percentage of broken anterior arches was only 6 8 per cent

TABLE 12 —SWELLING

		Per cent
About astragalo-scaphoid articulation	33	58 9
About external malleolus	10	17 9
About both malleoli	6	10 7
Over dorsum	4	7 1
Prolonging heel cushion forward	3	5 4

TABLE 13 —TENDERNESS

		Per cent
Center of heel	16	64 0
Over astragalo-scaphoid joint	6	24 0
Sole	2	8 0
Cushion of first metatarpo phalangeal joint	1	4 0

Tables 12 and 13 are incomplete, and represent relative, rather than absolute, frequency Swelling when diffuse, as commonly, is not included

In broken anterior arch there was usually tenderness about the head of the fourth metatarsal

The commonest place for swelling was over the astragalo scaphoid articulation, and the commonest tender point was the center of the heel

TABLE 14 —MOBILITY (IN PASSIVE MOTION)

Inversion restricted (with dorsal flexion as a rule also restricted)	130
Dorsal flexion restricted (with inversion practically normal)	45
Generally restricted	69
Increased	20
Normal	257
Unrecorded (presumably no restriction)	479
	1 000

In 88 cases, mobility, almost always in inversion, was sufficiently restricted by spasm, adhesions, or adaptive changes in tendons or bones, to require special treatment, of these cases, 58, or 65 9 per cent, were men, contrasted to the 42 6 per cent of male cases in the whole series

In about one-quarter of the cases there was notable restriction of passive motion, in one-twelfth of the cases this restriction required special treatment, restriction of motion requiring special treatment was commoner among men than among women

TREATMENT

To make the results significant, it is necessary to give an outline of the treatment used In a great majority of the cases (86 7 per cent) a steel sole plate was advised, usually at initiation of treatment, sometimes after failure of other means, or in course of treatment These plates were made as follows a plaster impression was taken in each case, the patient sitting upright and allowing the partially corrected foot (or feet) to rest on the bottom of the pan of plaster, the cast, made by filling this impression, would then be gouged out, shaved, and marked for a plate of the shape and size needed by the particular foot The plates were usually of No 18 gauge steel, spring-tempered, covered with leather on both sides The prevailing type of plate, chiefly for what has been described as the commonest type of deformity, was the square plate, supporting nearly the whole width of the sole from just anterior to the weight-bearing surface of the heel to the sesamoid bones of the great toe A posterior outside flange, to keep the foot from slipping off and a small posterior inside flange were used, but neither side as a whole was rolled up, and the scaphoid and the base of the fifth metatarsal were not inclosed For broken anterior arches, the plate was extended and raised under the heads of the middle metatarsals Much abduction would be opposed by an anterior outside flange High heel flanges and various modifications were used in needful cases Flannel bandaging and supporting adhesive strapping were employed where indicated

Local and general tonic treatment, foot exercises, right shoeing, and correct muscular standing and walking were often recommended Rigid valgus was treated by adhesive strapping in as much correction as possible followed by plate when the foot became sufficiently flexible, intractable cases were forcibly corrected by manipulation under ether, and retained overcorrected by plaster cast, followed by plate and usually Thomas sole Thomas heels, or heel and soles, were occasionally used in promising cases in substitution for plates Temporary felt pads and leather felt pads were among the measures employed The treatment thus outlined represents only the routine, and does not give account of the adjustment of the routine to the individual

ALTERATION OF PLATES

Of the 1,000 cases, 513 did not return for continued treatment, of these, at the prevailing proportion of 86 per cent, 451 must have been cases in which plates were advised, this leaves of the total 847 plate cases, 396 to form the basis of the following table If these 396 had all diligently continued to follow treatment, the number of alterations needed and made would doubtless have been increased It is probable, as will be shown later that the need for plate changes among the 451 who did not return was no less than among the 396 included in the table

TABLE 15 —ALTERATION OF PLATES

Time After Application of Plate	Under 1 mo	1 to 2 mos	2 to 6 mos	6 mos 1 year	1 to 2 years	Total
Raised	103	29	28	13	3	176
Repaired—usually broken	7	6	31	34	7	85
Adjusted—because painful	24	9	12	1	0	46
Lowered	3	4	3	2	1	13

Cases in which plates were raised more than once each case entered only once in table twice 28, three times, 6, more than three times, 5 Alterations with time not specified, not entered in table, 7

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[3] Boston Medical and Surgical Journal Aug 4 1898

Thus, in two-fifths of the plate cases returning for after-treatment, the plates were raised, usually within a month The need for this raising, due to the patient's becoming accustomed to the plate, to plantar moulding and atrophy, and to elevation of the arch, was conspicuously shown by the relief it gave from returning symptoms A higher plate at outset would, as a rule, apparently not have been tolerated, indeed, the same plates, which, in a few weeks, unquestionably required raising, the patient at the beginning often could not wear steadily, but on account of the initial height of the plates had to become used to them gradually

About one-fifth of the plates broke during the first year of use, usually due to continuous moisture and resultant rust This breakage has recently been prevented apparently satisfactorily by galvanizing the plates with omission of the lower leather

RESULTS OF TREATMENT

Five hundred and thirteen cases of all kinds of static foot error did not return for after-treatment, and there are consequently no hospital records of the results of treatment Of these cases, however, 85 have recently been examined or heard from, after a period since initial treatment (usually plate), average 6 to 7 months, and the results subjoined will perhaps serve as a basis for estimating the results in all the deserters

"Entire relief" in the following tables means without inconvenience of any kind from feet, "relief," occasional pain in feet usually after much use, "slight relief," *pain in feet less, but present more or less all the time*, "no relief," pain as much as ever Intermediate results are expressed by the one of the above terms nearest in meaning

TABLE 16—RESULTS OF INITIAL TREATMENT

		Per cent
Entire relief	21	27 6
Relief	33	43 4
Slight relief	4	5 3
No relief	18	23 7
	76	100 0
Treatment rejected	9	

About one-quarter, therefore (if the same proportions hold for all), of the cases that did not return after the initial treatment (usually plate), were entirely relieved, and slightly less than the same number were entirely unrelieved

TABLE 17—RESULTS OF PLATE TREATMENT OF STATIC ERROR AFFECTING PRINCIPALLY THE LONGITUDINAL ARCH

	Under 1 mo	1 to 6 mos	6 mos 1 year	Over 1 year	Total	Per Cent
Entire relief	5	28	13	21	67	32 7
Relief	8	56	21	7	92	44 9
Slight relief	3	8	3	2	16	7 8
No relief	3	17	2	6	28	13 6
Worse	0	0	1	1	2	1 0
	19	109	40	37	205	100 0

Of the cases involving principally the longitudinal arch, one-third were entirely relieved by plate treatment (of course with the accessory treatment as described in the outline of treatment), with after-treatment, and only one-eighth unrelieved, in contrast to only the one-quarter entirely relieved, and the one-quarter unrelieved of the patients who received, as a rule, the same *initial treatment*, but deserted without after-treatment The importance of after-treatment is further manifested by the improvement in results with the increasing duration of treatment, thus, as shown by the table, about three-fifths of the cases under treatment more than one year were entirely unrelieved, while of the cases under treatment less than six months those *entirely relieved were only one-quarter*

TABLE 18—RESULTS OF PLATE TREATMENT OF STATIC ERROR INVOLVING PRINCIPALLY THE ANTERIOR ARCH

	Under 1 mo	1 to 6 mos	6 mos 1 year	Over 1 year	Totals	Per Cent
Entire relief	0	2	7	0	9	32 1
Relief	2	8	3	2	15	53.6
Slight relief	0	0	0	0	0	
No relief	0	0	1	3	4	14 3

Of the 10 cases with sudden, disabling metatarsalgia 5 did not return after initial treatment, and have not been found One was entirely relieved by plate for 8 months, then attacks returned, plate needed raising Two were relieved at end of a month by strapping of anterior arch and plate Of the two remaining, one continued to have attacks of undiminished severity, but less frequently, and the other was entirely unrelieved, although both had been faithfully under treatment, for ten months and one and a half years respectively

The results of treatment of cases involving principally the anterior arch were strikingly similar to those in the longitudinal arch cases one-third entirely relieved, one-twelfth unrelieved, and the rest all relieved considerably In the cases of sudden, severe metatarsalgia, the results were not so good

THOMAS SOLES AND PLATE SUBSTITUTES

The results of treatment by Thomas soles without plates—entire relief, 2, relief, 4, slight relief, 1, no relief, 3—tend to show that this treatment, even in picked cases, was less effective than plate treatment, to which several of these cases had to come Flannel bandaging and alternate hot and cold showering, or felt pad and strapping were also used, in promising cases of mild static error of the longitudinal arch, to bridge the patient over to physiological recovery, without committing him to the plate-habit In 16 such cases, only 4 were unrelieved, but later 1 came to Thomas soles and 5 came to plates

TABLE 19—ADHESIVE STRAPPING FOR RESTRICTED INVERSION

	Under 1 mo	1 to 6 mos	6 mos 1 year	Over 1 year	Totals
Entire relief or relief	3	5	1	0	9
Slight or no relief	0	3	0	0	3
Flexible	4	2	1	0	7
Still rigid	0	3	1	2	6

In three-quarters of the cases with restriction of inversion sufficient to require corrective adhesive strapping, the pain was entirely or much relieved, although the flexibility was much improved in only a half of a series of similar cases The relief of symptoms without restoration of mobility, even with the plate, usually did not continue long after the last strapping

TABLE 20—FORCIBLE CORRECTION UNDER ETHER

	1 to 6 mos	6 mos 1 year	Over 1 year
Flexibility nearly normal	3	1	0
No record of change of mobility but symptoms relieved	2	1	0
Rigid again	6	5	1

Thus, in two-thirds of the cases of forcible correction under ether, the valgus and rigidity, in spite of plaster cast, adhesive strapping and plates, returned, although in several cases forcible correction was repeated, and in one case was performed five times with unpreventable return each time of rigid valgus due to peroneal spasm In these not uncommon cases of spasm of the peroneals, resection of a short musculo-tendinous piece of the two muscles and their common sheath has recently in the clinic been giving apparently satisfactory and permanent results

REMOVAL OF PLATES CHANGE OF HABITUAL FOOT POSTURE

Among the 350 plate cases in which results are known, although a half and more had worn their plates over six months, only 15 removed their plates with relief (6) or entire relief (9) Of these 15, 5 had worn plates less than 6 months, 5, 6 months to 1 year, and 5, more than one year, the majority of these gave up plates without advice Six cases, one after three years of plate wearing, are known to have made, without advice, determined attempts to give up their plates, but were forced back to them by returning pain The unavoidable inconvenience of plates and the natural desire to be rid of them, as illustrated in these six cases, and the common return of symptoms after breakage of plates, make it improbable that any considerably larger number of the 350 plate cases than the fifteen could have discontinued their plates with comfort The 95 7 per cent of all the plate cases in which the results are known continued to wear their plates because they could not do without them After more than six months on the average, they subjectively needed plates as much as ever

To explain this continued subjective need objectively, the prevailing foot-posture in standing and walking was observed in 125 cases, nearly all of whom had steadily worn plates for averaging six to seven months, and compared with the recorded posture at entrance These comparisons could not be made accurate, because, as before noted there was no accurate method of measuring and recording the posture,[4] even if this posture had been uniform during the observation, and not shifting, requiring a composite judgment but roughly speaking it seemed unquestionably that in nearly all the cases, painful or painless, plate-wearing or cases in which plates had been successfully discarded, with the exception of the abducted-pronated feet of growing boys and girls, there had been produced by the plate-wearing no practical change in the prevailing posture of the feet when used without plates, although, as indicated by the common need for plate-raising, the sole was molded and hollowed, and the arches were apparently more easily elevated by artificial support The muscular control, also, as a rule did not appear improved

SOME REASONS AND REMEDIES FOR FAILURE TO RELIEVE

Some of the reasons for failure entirely to relieve or to maintain entire relief that have been made obvious by a review of the series in light of the results may be summarized as follows

1 Patient's failure to return for after-treatment (raising or adjustment of plate, etc) The patient regards the plate as a shoe which is to be worn unchanged until worn out

2 Patient's failure intelligently and resolutely to co-operate in achieving cure The patient expects that the plate will cure his foot in the sure, quick, lazy way in which the charlatan's specific holds forth to cure consumption

3 Remaining or returning interference with correct weight-bearing position and normal mobility of the foot (spasmodic or shortened tendons, intertarsal adhesions bony obstruction)

4 Mistake for a simple static foot trouble of a foot trouble partly static but chiefly symptomatic of some other condition (arthritic or polyarthritic, circulatory, neurological, etc)[5]

In a comparatively few of the cases, the reason or reasons for failure to relieve are obscure, and in spite of painstaking treatment diligently followed relief was not afforded In one case, for instance, thorough local and general treatment, including general institutional hydrotherapy, was followed for six months before relief began to come

These reasons for failure to relieve imply the corresponding remedies too plainly to bear mention One remedy, however, it is believed, can not easily be overemphasized the patient's intelligent, resolute co-operation Such co-operation though, especially in a hospital clinic, often hindered and sometimes prevented by the character of the patient, depends in all cases on effective instruction and encouragement, varying, of course, with the kind of patient and the kind of foot The patient should be told and shown how to stand and walk to the best mechanical advantage, by the voluntary correction of pronation and the muscular use of foot and toes Special exercise, correct shoes and foot wear, home manipulation for restriction of mobility tonic bathing, local or general, and increase of physical vigor should, in needful cases, be explained and advised These means of self-help, intelligently and resolutely used, with, or even without a plate substitute temporarily would, in a considerable number of cases it is believed, be sufficient, thus avoiding the plate habit The engaging, suggestive effect of a plate, however, more than of any plate substitute or of any other measures, is, in treatment of many cases, a factor of real importance If a plate is used, it should be explained to the patient that the plate will probably need raising or alteration, and in most cases that it is to be regarded only as a temporary crutch, in addition to the rest of the treatment, which is to be discontinued, under advice, as soon as possible For painlessness through plate wearing, although in some cases the best possibility is never perfect cure

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PRACTICAL NOTES ON OINTMENTS, THEIR USE AND ABUSE *

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From time immemorial ointments have been employed in treating diseases of the skin, and the numerous references to them in the Bible show how highly they were esteemed One reference, namely, "Dead flies cause the ointment of the apothecary to send forth a stinking flavor," refers to an important point to be considered, that is the freshness or rancidity of ointments

While it might seem a simple and easy matter to prescribe an ointment for a diseased condition, any one who has dealt much with diseases of the skin not only often recognizes the difficulties connected therewith, but sees continually the uselessness or harm of many that have been previously prescribed for patients by others

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[4] An effort to measure pronation by the angle between the intermalleolar diameter and the long axis of the foot proved as in the experience of Drs Lovett and Cotton unprofitable because the relation of the amount of abduction i e. increase of the angle to the amount of pronation is not constant

[5] No static foot trouble is without a cause and strictly is always symptomatic but by simple static foot trouble is meant foot trouble due more to the weight bearing error than to the greater or less complex of causes from which the weight bearing error springs. It is only the former cases of which as before stated the present series was intended to be composed.

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A practical study of the subject, therefore, may aid some in avoiding certain of the errors which continually occur in this line of therapeusis. The subject is a larger one than can properly be treated of in a single paper, and many important matters must be very briefly considered.

PATENT OINTMENTS

In regard to the innumerable patent ointments which have appeared in succession for years as cures for many or "all diseases of the skin," and some of which of late years have been so ingeniously thrust on the profession, some may have value, if rightly used in suitable cases, but their very number and variety show their relative uselessness. They may serve to relieve the physician of the effort necessary to prescribe a suitably compounded ointment, but experience proves their value to be extremely limited; indeed, they are often found injurious. Their uncertain composition, which is found to vary considerably at different times, and the doubtful testimonies of their efficacy, generally from unknown and inexperienced persons, quite excludes them from our serious consideration.

The United States Dispensatory contains formulæ for over fifty ointments for various purposes, many of which are well known and are of value, as recommended, but some are too weak and many of them are far too strong for ordinary use, unless diluted. It is, therefore, hardly safe to always rely on the directions there given in regard to the use of ointments in diseases of the skin.

There are so many items to consider in connection with this subject that it will be well to take them up in regular order under the following heads: 1, bases for ointments; 2, ingredients; 3, methods of compounding; 4, strength; 5, mode of application and removal; 6, indications and contraindications for ointments. No attempt will be made to fully cover all these topics, but practical suggestions are offered as to matters which experience has shown to be of importance.

BASES FOR OINTMENTS

The first requisite for a good ointment for the skin is that its base shall be non-irritating and of a proper consistency, and the tendency of many ointments to become rancid should never be forgotten by the physician. This will sometimes happen through the carelessness of the druggist, more often by that of patients in keeping them too long. Not infrequently an old ointment will prove irritating when one freshly and properly prepared, with the same ingredients, will prove serviceable.

Lard is a common base of very many of the ointments of the dispensatory, and to prevent its rancidity it is commonly treated with about 2 per cent. of benzoin, or originally the tincture of benzoin was added. This latter may prove irritating to the skin, and sometimes the lard is imperfectly benzoinated and will not keep.

Wax and oils also often enter as ingredients, which may likewise tend to rancidity. The petroleum products, paraffin, vaselin, albolene, etc., are also used considerably as bases, but it must be remembered that vaselin is not acceptable to every skin. Not at all infrequently an ointment made up with it will prove irritating, when the same ingredients with another base will be satisfactory.

Vaselin and albolene are often of value when it is desired to have only a lubricant, or a soft ointment to penetrate, as in the hairy scalp, but as a protective ointment it does not answer, unless materially stiffened with powder, as in the Lassar paste, or with wax, paraffin or lanolin.

Lanolin is rarely suitable as a base alone. At one time it was thought that it would be valuable as promoting absorption, when this was desired, but experiments have shown that it is far inferior to vaselin in this direction. Glycerite of starch often serves excellently as an excipient in irritable conditions, and also for general inunction after bathing, in dry conditions of the skin, but the susceptibility of some skins to glycerin must always be borne in mind, for to some it proves an irritant. Mutton tallow melted and thoroughly incorporated with enough oil, makes an excellent inunction for dry, harsh skin. Goose grease has been highly praised as an excipient, especially for parasiticides in the vegetable parasitic diseases. The newer proprietary bases, vasogen and endermol, serve good purposes and appear to be bland and unirritating.

Perhaps the most serviceable base for most ointments is cold cream, or the unguentum aquæ rosæ of the Pharmacopeia, but care must be exercised that it is well made, and that it is fresh, as it is liable to become rancid, and the water in it to evaporate. A little carbolic acid, 1 to 2 per cent., will preserve it for a considerable length of time.

A word in regard to diachylon ointment, so commonly associated with the name of Professor Hebra of Vienna. As directed now to be made, by melting together equal parts of lead plaster and olive oil, it is not as serviceable as that made after Hebra's original formula, for the oil is not decomposed in the process. Hebra advised that the ointment be made direct from the litharge, olive oil and water, the two latter in very much larger quantities and the water double that of the oil. The water and oil are boiled, with constant stirring, and the litharge sifted in and the whole stirred until a good soft ointment is made.

INGREDIENTS OF OINTMENTS

While many of the standard ointments, as those of zinc, mercury, sulphur, etc., are of more or less value used alone, undoubtedly much gain can be had by a proper and judicious combining of various ingredients to suit individual cases, although sometimes prescriptions are seen exhibiting a marvelous polypharmacy, useless if not harmful. The addition of carbolic acid, 1 or 2 per cent., is a most valuable adjuvant to many ointments, and ichthyol, 6 to 12 per cent., is also of great value as an antipruritic, as is also oil of cade. Salicylic acid is also serviceable as a promoter of the growth of healthy epithelium, and may be added to various ointments in a strength of from 3 to 6 per cent.

Many illustrations could be given of the advantage of combinations of ingredients in ointments. Perhaps the most striking is in regard to what is often known as Wilkinson's ointment for scabies, which may be further improved by the addition of tar ointment and liquid storax. It must be remembered that the ingredients of ointments must often be changed to suit individual cases, and it is not always safe to take prescriptions, of ever so high an authority, without considering well the ingredients and their suitability to the diseased condition and the particular skin under treatment.

COMPOUNDING OF OINTMENTS

The Dispensatory is very clear in its general and special directions in regard to compounding ointments, but unfortunately, these are not always strictly followed, and one occasionally meets with ointments very poorly prepared. It is well, therefore, for the physician to inspect them from time to time, to be sure that they are fresh and perfectly prepared The most common error is in having gritty particles, which are often most irritating to the surface I have seen an ointment of red oxid of mercury ordered for use on the eyelids, in which there were hard, solid particles, suggesting red pepper, stirred into the base

I have also frequently met with ointments in which there was much gritty substance, easily felt in rubbing them between the fingers All mineral ingredients should be very thoroughly triturated in a mortar, with a few drops of oil, so as to make a fine paste, which is then thoroughly incorporated with the base The more I see of practice the more I am convinced that a certain proportion of the want of success often occurring in connection with the treatment of diseases of the skin is owing to the faulty pharmaceutical prescriptions

STRENGTH OF OINTMENTS

Both in health and disease individual skins differ very greatly in their reaction to external irritants, and one should always be cautious in making a first application to a skin with which there has been no previous personal experience Irritation and harm is continually done to eruptions by too strong ointments, and it is always well to begin with a mild application, increasing the strength as indications occur Undoubtedly the reputation which oxid of zinc ointment has acquired, and also possibly some of the patented and advertised ointments, lies in their bland, non-irritating character, which may be all that is required in any particular case

One will make very little headway in treating most diseases of the skin who knows only oxid of zinc ointment, although with it alone he will probably do more good and less harm than with any other single ointment

PROPERTIES OF OINTMENTS

The strength and composition of ointments must naturally vary very greatly with the purpose for which they are employed, and this should always be kept distinctly in mind in the treatment of any cutaneous condition Ointments may be required for several very different purposes, and, according to their composition, their action may be lubricating, protective, soothing, astringent absorbent, stimulating, or antiparasitic All of them may prove healing according to the nature of the complaint and the condition of the skin These actions may be briefly considered

Lubricants—In many instances only a lubricant is wanted, and no mineral or other ingredients are required other than perhaps 1 or 2 per cent of carbolic acid Vaselin or albolene answers often very well, but a very valuable combination for general use is made as follows

R	Lanolin	℥i	30
	Boro glycerin	℥ss	15
	Unguenti aquæ rosæ	℥iii	90
M.			

An ointment of mutton tallow and olive or cod-liver oil, which can be cheaply made at home, is very serviceable in ichthyosis and in conditions where large quantities are long to be used Glycerite of starch is also very acceptable to many skins

Protective—The protective feature of an ointment is often a very important one, which will be spoken of more fully shortly when considering the mode of application of ointments

Soothing Properties—In very many diseased conditions of the skin the soothing character of an ointment is that which is most required and here it is that the ingenuity of the physician is often most severely taxed Especially is this true when the element of itching is prominent, and when one remedy after another in ointment form will fail to give relief In many of these instances some other application, in the form of a lotion or powder will be more suitable

In attempting to give relief from itching great care will often be necessary to avoid remedies which overstimulate the skin, for continually it will be seen that stronger and stronger applications are used with only irritating effect when a mild, soothing ointment will accomplish better results, especially if rightly applied Such ointments as the following will often give relief after much more powerful remedies have failed

℞	Acidi carbolici	gr v		33
	Pulv calamini prep	℈i	1	33
	Zinci oxidi	ʒss	2	
	Ung aquæ rosæ	℥i	30	
M.				
℞	Ung picis	ʒii	8	
	Zinci oxidi	ʒss	2	
	Ung aquæ rosæ	ʒvi	24	

In increasing the strength of ointments great care should be exercised and the effect carefully noted

Astringents—In certain cases more of an astringent action is required, and tannin, ergot, lead and bismuth may be added to meet different requirements

Absorbents—Again an absorbent effect is often desired in an ointment, and the preparations of iodin and mercury prove most valuable, as also tar and its various congenors

Stimulants—Stimulating ointments are also often called for, especially in more chronic conditions, and there are a large number of these which, however, must be used with caution and with a definite end in view

Many of the ointments found in current literature may be thus classed, and while in skilled hands and applied just rightly, they can be used with safety and often with advantage, in a large share of ordinary cases they will often irritate the skin unnecessarily and be worse than useless

Parasiticides—Lastly antiparasitic ointments often present considerable difficulty to those not greatly accustomed to their use, and frequently to the experienced it is a difficult matter to secure an effective ointment which is not too stimulating Especially to the scalps of children the ointments often suggested are either too weak or too irritating Chrysophanic acid, although a fairly efficient parasiticide, is being less and less used, owing to its objectionable staining of the skin, hair and clothes The iodin preparations and soluble mercurial ointments, such as the oleate and diluted citrine ointment, together with salicylic ointments afford the best results

MODE OF APPLICATION

The mode of application and removal of ointments are often very important matters, about which far too little thought is given, for these have much to do with their good or bad effect It is rare to find that specific directions have been given to patients, and yet, as it is often their first experience in this procedure, it is hardly to be expected that they will understand exactly the way to apply them in order to get the best results The usual direction is simply to apply some of the ointment morning and night and very commonly patients will diligently wash off one application before the next one is made, and not infrequently their faulty method of treating the skin will do much to counteract the benefit from the ointment used

The mode of application of an ointment must vary greatly, according to the purpose for which it is used Thus, when an ointment is used for lubricating, as in ichthyosis, xeroderma, or in a slight general eczematous state, the soft ointment should be taken on the palms and the body freely anointed, with friction, morning and night, until much of the ointment has been absorbed Also in the treatment of scabies the appropriate ointment should be rubbed in, with the palms, over all the affected parts, and even for half an hour, until it has well penetrated the furrows made by the insect, and a considerable quantity should be left on, so that the underclothing becomes pretty well saturated with it

On the other hand however, on a more or less raw, eczematous surface such a procedure would be anything but beneficial, and the ointment should be thickly spread on the woolly side of lint and firmly bound on the part with as light a gauze bandage as possible The same is true when it is applied to such a lesion as pemphigus or an ulcerating surface In this latter case, however, it is often well to spread the ointment on very thin layers of absorbent cotton, held on the hand, which may be made to fit an uneven surface, and on removal they will come off easier, without tearing the newly formed granulations This method is also peculiarly satisfactory in eczema about the anus, and in hemorrhoids, as it can be well tucked in and keeps its position

Between these two extremes there are varying degrees of active application of ointments, and patients must be instructed just how to use them or much of the benefit will be lost Thus, in parasitic diseases of the scalp, after clipping the hair very short, it is often well to apply the ointment with a stiff stencil brush, with considerable friction, working it well into the follicles, and the same mode of application is valuable in hard patches of psoriasis on all parts of the body

Again, in old patches of eczema there is often much benefit from a greater or less friction with the finger, or often with a bit of flannel with the ointment, after which the patch is covered with the same spread on the woolly side of lint and bound firmly in place In many cases of eczema or psoriasis about the hands it is almost impossible to make any progress unless the proper ointment is kept bound on the affected part all the time, night and day, for a while

In itching conditions it may be necessary to renew the applications of ointment many times daily, and in eczema of small children the direction should be to replace it as often as it is rubbed off or the dressing becomes at all deranged

In general itchy conditions, as pruritus and urticaria, it may be necessary to make applications of an antipruritic ointment many times day and night

Often one sees very poor results in the using of ointments, resulting from the coverings or dressings which are placed over them It is not at all uncommon to see a diseased surface to which ointment has been applied, covered with old linen or surgical gauze, which readily absorbs the greasy portion of the ointment very shortly, and leaves the affected portion dry, perhaps coated only with the mineral or other ingredient This is not at all conducive to the healing of the part

As has been already mentioned, the best results are obtained when the proper ointment has been spread thickly on the woolly side of surgical lint, or spread on very thin layers of absorbent cotton, and bound firmly on the part

Many errors continually occur unless careful and explicit directions are given by the physician in regard to the removal of ointments and the subsequent treatment of the diseased surface It seems to be the universal idea that such should be frequently washed, and one continually finds healing prevented by the application of soap and water, daily or oftener, when with proper use of the same ointment good results followed

Rarely, is it advisable to wash surfaces which are at all raw, and all the cleansing necessary may be accomplished by the gentlest wiping with absorbent cotton Much harm is also often done by a rough removal of ointments and dressings When the latter adhere too closely it is generally because there has been too little ointment used or an improper covering made If on removal of a dressing there is much ointment on the skin which it is desirable to remove, this can often be best accomplished by means of a dull knife, if gentle wiping with absorbent cotton is not effective

INDICATIONS AND CONTRAINDICATIONS FOR THE USE OF OINTMENTS

It is not always an easy matter to know just the exact indications for the employment of this or that kind or strength of ointment, or, for any ointment, in preference to some other kind of dressing, and disappointment will occasionally follow the best directed efforts In some acute inflammatory conditions of the skin lotions and powders suit far better than ointments of any kind while in the more chronic conditions, with dry, rough skins, ointments are, of course, called for

The exact kind and strength of ointment can be determined only after a careful study of the skin, lesions present, and their acute or chronic state or condition, and also after a full appreciation of the character of the skin of the individual under treatment

In general, a thin, delicate skin, especially in one with a light complexion and hair will bear and require much milder applications than a thick, tough skin, especially in a brunette

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In concluding these brief practical notes on the use and abuse of ointments, for the general physician I must utter the caution that we have been considering only one side of the great subject of the treatment of diseases of the skin, and one which is often the least important All local measures are constantly found to be ineffective unless proper and adequate internal and general treatment is adopted and earnestly and faithfully carried out

COVER-GLASS CULTURES AND THEIR POSSIBILITIES IN STUDYING EPIDERMIC FUNGI *

J FRANK WALLIS, M.D

Instructor in Dermatology Philadelphia Polyclinic Dermatologist to the Southern Dispensary Dermatologist and Radiotherapeutist to the Henry Phipps Institute

PHILADELPHIA.

The popular methods for studying the macroscopic and microscopic appearances of the epidermic fungi have been limited to the tube and plate cultures and their modifications on various culture media, and the hanging drop of bouillon ably demonstrates the structural formation of the growth

By the plate culture Sabouraud, Colcott, Fox and others have suggested a classification of the tinea by their clinical appearances and their behavior on solid media Although they have distinguished certain of the parasitic growths, yet their differentiation from some of the common molds which form cultures not unlike the growth of the trichophyton, can only be corroborated by the microscope

Smears from cultures and cover-glass impressions only suggest stages of a growth and forms of fructification, without a complete history of vegetation

The method which I have entitled cover-glass cultures consists in culturing the parasite on a cover-glass using any nutrient media desired, placed in a moist chamber and incubated at the room temperature

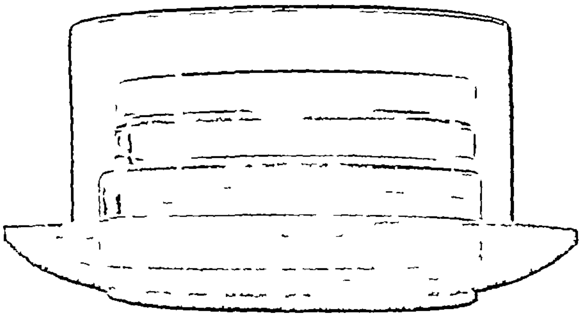


Fig 1 —Moist chamber for cover glass cultures

The advantage of this method over the hanging drop consists in the facility for observing the development long after the possibilities afforded by the latter, and by providing a method of registering various stages by staining and mounting

These specimens exhibit the beautiful arrangement of the formation of mycelia from spores, the growth of the colony above and below the media and the character of the fruit-bearing bodies or conidia, without disturbing the picture as it occurs in life

The scheme consists in placing a drop or two of culture medium on a cover glass which has been passed through a flame If solid medium is used, it must be liquefied by gently heating and then dropped on the cover glass with a platinum loop The hair or scale is then embedded while the medium is soft I generally prepare from four to eight cover glasses for each subject These are cultured in specially prepared moist chambers, which consist of a shallow glass dish furnished with a circular barrier of glass, one-half inch in height separating it into two distinct compartments and affording a shoulder over which is fitted a thin glass dish three inches in height In the inner compartment are placed Petri dishes holding the prepared cover glasses (Fig 1) Moisture is produced by keeping lime water in the bottom vessel outside the hooded barrier This excludes the air and prevents evaporation of the medium The dishes must be replenished with water frequently

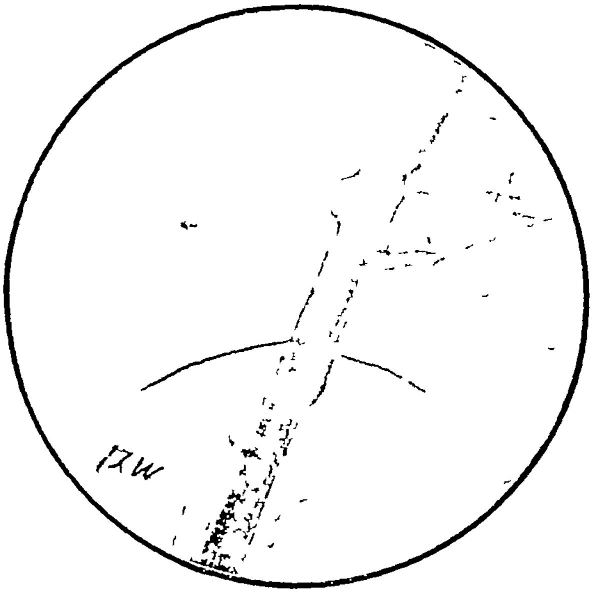
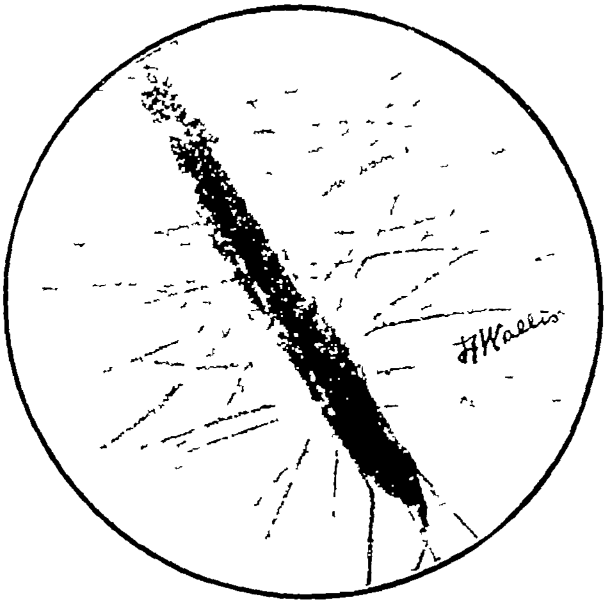


Fig 2 —Hair from small spored fungus demonstrating the process of budding

Lime water is preferred, as it precludes the possibility of contamination This is further prevented by packing a rope of cotton in the water around the cover, a precaution invaluable if the water should become vaporized This has not infrequently happened in my experience



Fi —Same hair as Fig 2 but at later stage

I have sometimes found it necessary to prevent drying of the medium by placing the cover glasses on moist circles of blotting paper in each Petri dish

Room temperature is sufficient for the growth of the epidermic fungi and less favorable for contaminations that flourish above that point The average period of

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Cutaneous Medicine and Surgery and approved for publication by the Executive Committee Drs H W Stelwagon, J A Fordyce and H G Anthony

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These results can be accomplished by combining the clinical picture and the microscopic findings with the cover-glass and plate cultures In studying the trichophytons the three classes, according to the doctrine of Sabouraud, should be observed

The microphotographs represent a few of the variations in the growth of the microsporon and the megalosporon, and the two forms of the common molds which not infrequently contaminate our cultures

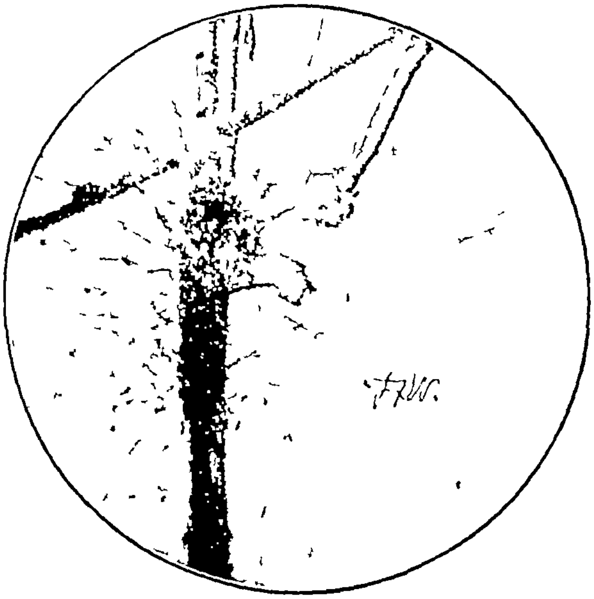

Fig 8 —Hair illustrating an unusual form of kerion

Figures 2 and 3 illustrate the development of the fungus from a hair which clinically and microscopically belonged to the first of the three classes of Sabouraud Figure 2 represents a budding occurring on the shaft and the root after the first twenty-four hours' growth Figure 3 exhibits a sprouting of the bud later, showing a number of sprouts tapering from the hair to the margin of the culture, there expanding into numerous filaments, also a dense network of straight mycelial threads are seen radiating from the hair to the margin

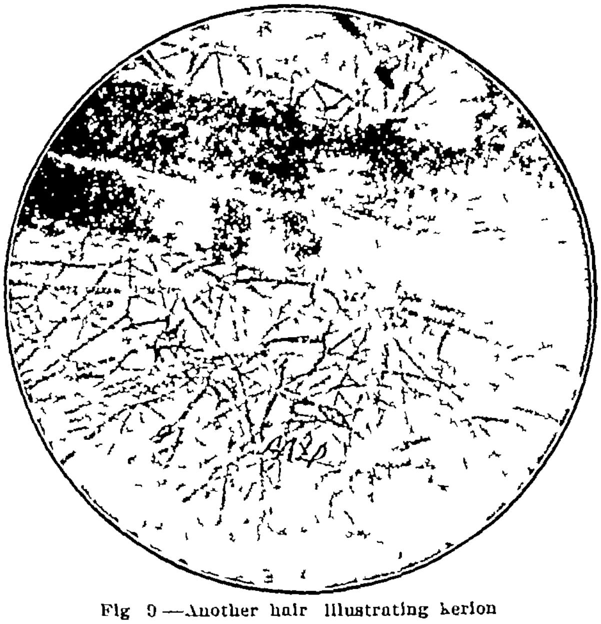

Fig 9 —Another hair illustrating kerion

Figure 4 shows a hair after five days' incubation, taken from class 1 Figure 5 represents a cultured hair, also from the small-spored variety, after forty-eight hours' growth, with straight mycelium Figure 6 shows a hair after five days' growth and corresponding to class 2

Figures 7, 8 and 9 belong to class 3, and illustrate an unusual form of kerion, the lesions consisting of numerous small abscesses invading the greater portion of the scalp In some instances they were not unlike favus, and a few were clinically diagnosed as such The patches are conspicuous by the complete loss of hair and an apparent depressed scar All cases have recovered in less than a year, with a complete restoration of the hair

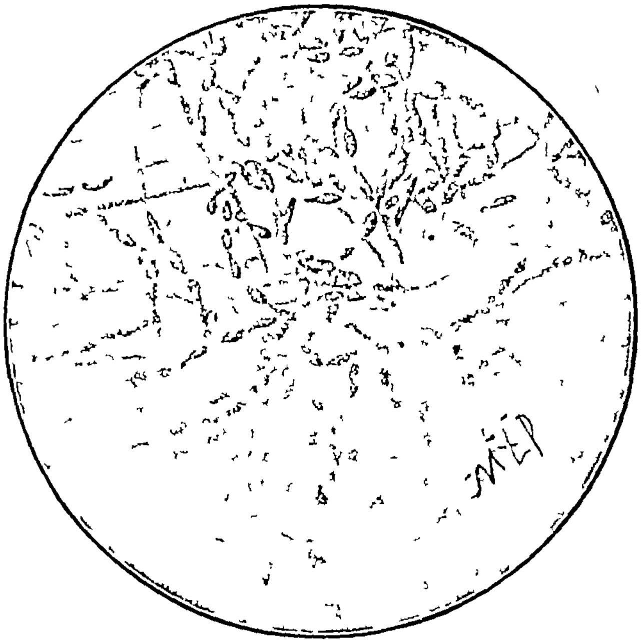

Fig 10 —Ribbons of conidia after culture

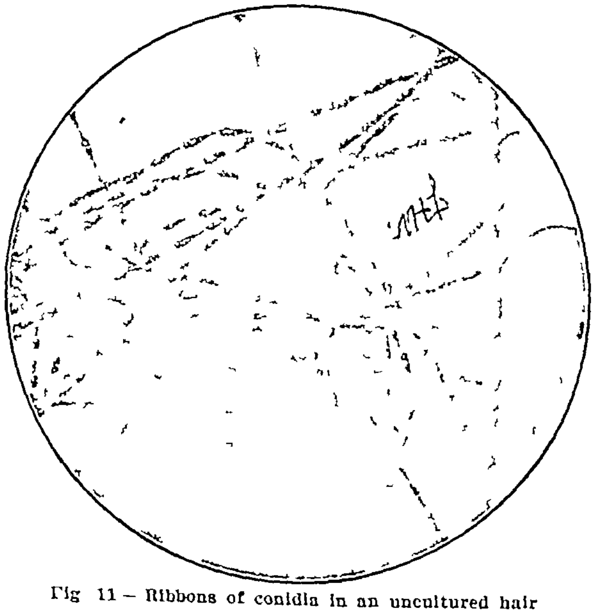

Fig 11 – Ribbons of conidia in an uncultured hair

Out of seven cases observed, five were girls, the eldest were 16 and 17 years of age The history and description of these cases will be the subject of a paper which will be published later

Figures 10 and 11 illustrate ribbons of conidia or chlamydospores frequently seen in cover-glass culture. Figure 9 is a microphotograph of a culture, and is same process found in an uncultured hair after digestion in a solution of caroid and stained

Figures 12 and 13 represent two molds Figure 11 is a living unstained culture of penicillium photographed from above, and Figure 12 a variety of aspergillus All specimens are from stained preparations, except Figure 12

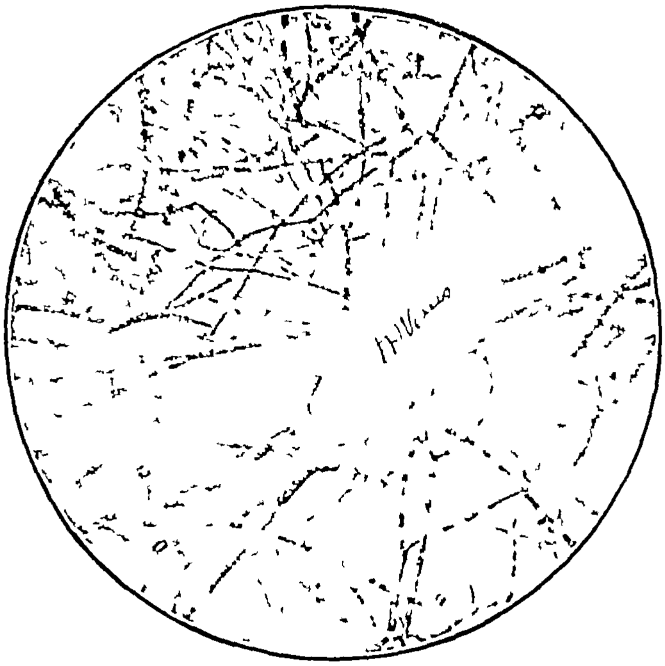

Fig 12 —Unstained cover glass culture of aspergillus

DISCUSSION

Dr Jay F Schamberg, Philadelphia—I have seen some of the cover glass preparations made by Dr Wallis in this ingenious manner, the method appears to facilitate the study of the various pathogenic fungi, particularly those that develop in hairs The photomicrographs illustrate the manner in which the mycelial threads grow out through the hair shafts into the surrounding culture medium

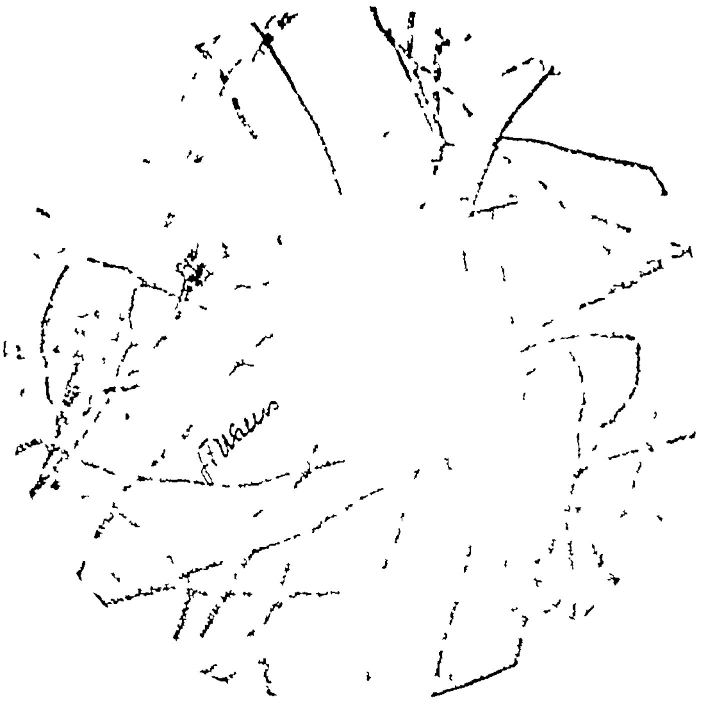

Fig 13 —Stained specimen of aspergillus

Dr. W S Gottheil, New York City—I had occasion to study contagious fungoid scalp disease when I was consultant to a large orphan asylum in New York some time ago The trouble had been prevalent for some time before my attention was called to it, and 460 cases were found among the 900 inmates Some idea of the importance of an outbreak of this usually trivial disease under these conditions is shown by the fact that it nearly led to the permanent closure of the institution, that *it took* eighteen months to eradicate, and that it cost $30,000 for the hire of and fitting up of buildings, physicians, nurses, etc We did a good deal of culture work, and finally came to the conclusion that parasites indistinguishable from the trichophyton could be obtained from the scalps of all the children, even those who were apparently unaffected Whether the fungus in these latter cases was attenuated or not I do not know, but we finally abandoned the culture test as entirely unreliable

Dr L Duncan Bulkley, New York City—It is interesting to see, after many years, the same plan gone back to which many of us used before culture methods were known Many years ago, twenty or thirty, I used the only way we knew of then, growing the culture on a plate and regulating the temperature of the room by the heater, and I have watched the growth of the parasite exactly as in the pictures presented by Dr Wallis I think this brings up a very practical matter and is a desirable statement When a man doing scientific work shows the general practitioner who is not up on bacteriology in general how he may begin in a certain way with an ordinary slide and cover glass and learn about vegetable parasites, this Section is doing what it is intended it should do, namely, helping the general practitioner to understand these things

Dr J F Wallis—I am interested in hearing that others have been before me in this work, especially Dr Bulkley I thought I was entirely original in this line of work until I read Dr Unna's paper, published in 1888, and I still believe my process differs from others, as it enables one to preserve the various stages of the growth as well as to study the living colony Dr Gottheil's experience in finding cultures from normal hairs proves that growths from other methods are not reliable It was this difficulty that suggested cover glass cultures which enables one to observe the spores within the diseased hair develop into mycelial threads and this, I think, without doubt demonstrates the cause of the disease To make the experiment more perfect I think it prudent to cleanse the diseased area of the scalp with cotton and alcohol, and this is an excellent scheme to collect the hair stubs, as they can be readily found on the cotton when they can not be seen on the scalp or epilated with forceps This I also depend on as a test, and in my experience it is diagnostic I depend on this test as a means of studying the progress of treatment

NEOPLASM (EPITHELIOMA) OF THE PULP *

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The great importance of this subject from a clinical as well as a purely pathologic point of view must be my excuse for presenting this rather incomplete study It is with diffidence that I put the case on record, for in looking through the literature at my command I have so far been unable to locate any other like condition If we exclude the hypertrophies which have been described under the heading of "Polypus of the Pulp or Tooth," then I am led to the supposition that this may be the first case recorded of an exceedingly rare condition In reviewing the literature, Ziegler[1] speaks of "tumors of dental tissue formed in later life, and described by dental pathologists as odontinoids"[2] Accordingly as they consist of enamel, dentin, cement, or a combination of these, they are classified as enameloid, enamelodentinoid, dentinoid, dentino-osteoid, or osteoid[3] They are all small, often to be recognized only by the aid of the magnifying lens They are flat, round, pear-shaped or warty in appearance The first three-named varieties grow from odontoblasts and arise from the pulp of the crown and from that of the root, generally in connection with caries, under metallic fillings, or as a result of periostitis mechanical injuries, abnormal retention of teeth or senile degeneration The osteoid form grows from the pulp and from the periosteum, and is developed from osteoblasts "Sarcoma fibroma and myxoma are in rare cases developed from the pulp as the tooth is being formed Such growths, and particularly the sarcomata and fibromata, are, however, much more commonly derived from the periosteum of the dental socket or alveolar process, from the bone marrow or from the gum itself" (Ziegler)

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Stomatology and approved for publication by the Executive Committee Drs E A Bogue Alice M. Steeves and M L Rhein

[1] Ziegler Special Pathological Anatomy section ix p 593, 1897

[2] Ullrich Ueber feste Neubildungen in der Zahnhohle 1852

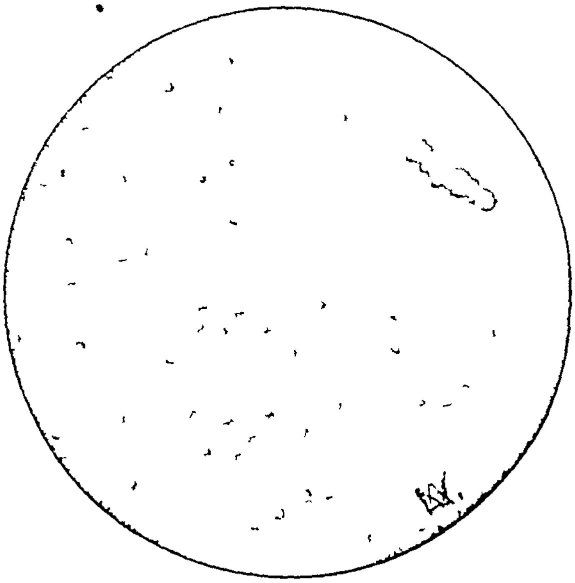

Fig 1 —T S premolar pulp x143 Taken from a central area Pulp stone. fibrous tissue with cells showing cloudy swelling fat

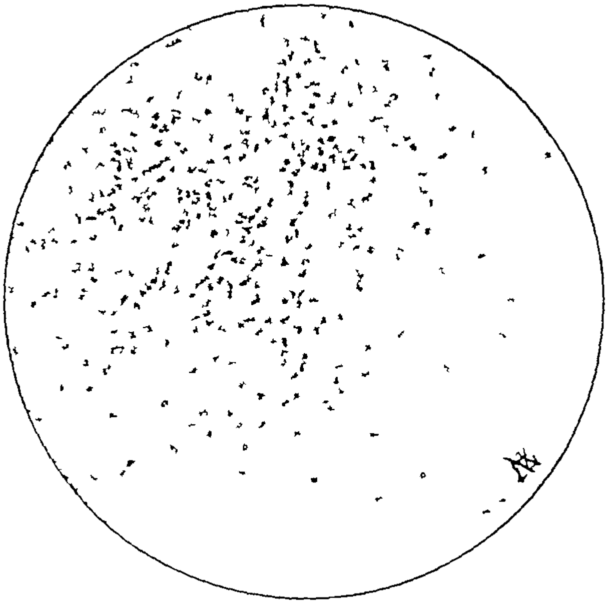

Fig 2 —T S pulp x148 Showing polynuclear leucocytes. Early fibrous tissue with connective tissue corpuscles.

Falkson[4] has described cases of cystadenoma arising from the rudimentary tooth papillæ and taking the form of a multilocular cyst, produced by cystic degeneration of the dental follicles The growth encloses newly-formed gland-like tubules and acini

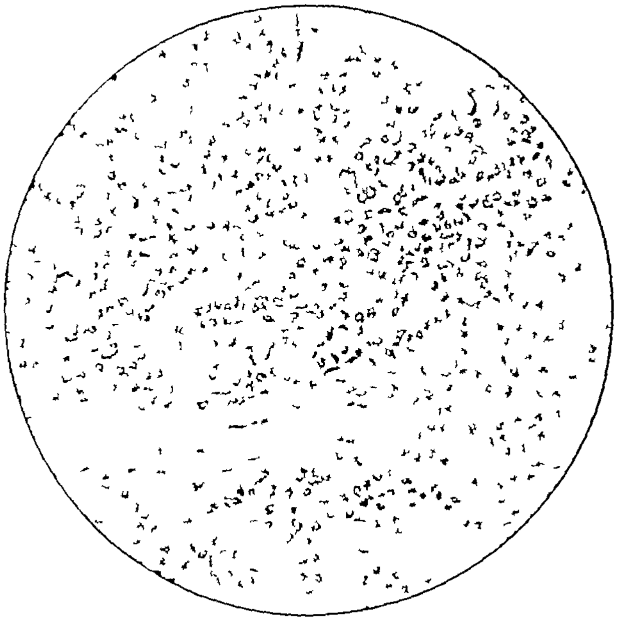

Fig 3 —T S pulp x250 Showing cell infiltration proliferation of blood vessels—fibrous tissue—more advanced than Figure 2

P Bruns[5] and others have recorded certain rare instances of dental carcinoma, in which some of the epithelial cells of the tumor take on the appearance of enamel germs and produce enamel[6] Unfortunately, the term "sarcoma" has been used when a simple hypertrophy or

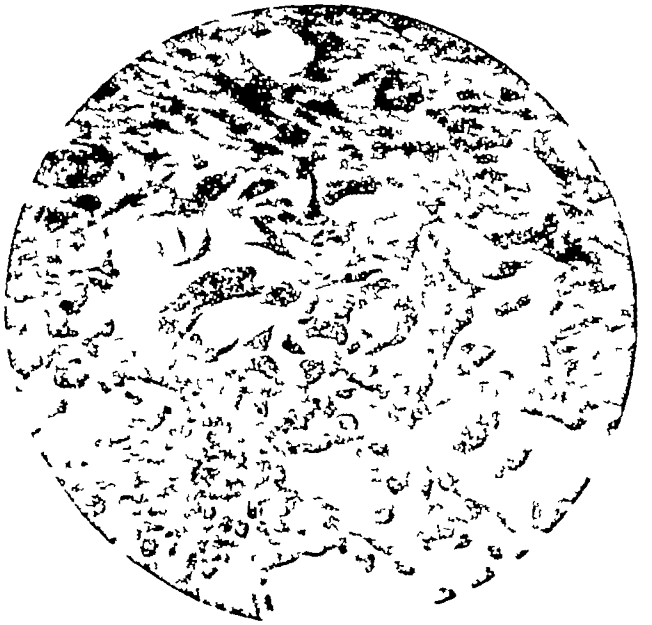

Fig 4 — Pulp x400 Connective tissue. Spindle cells Thickening of inner coats of vessel

polypus of the pulp has been meant, and this has been passed down from Wedl[7] and Salter[8] to Black[9]

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[3] Schlenker Zahn und Mundpflege St. Gallen 1883 Untersch über das Wesen der Zahnverderbniss St. Gallen, 1882 Pulpen Odontinoide. Hdbuch d. Zahnheilkunde Verknöcherung der Zahnnerven 1885 Vierteljahrsschrift f 3 Wien 1892

[4] Falkson Development of Rudimentary Teeth and Cysts of the Jaw V A. 76 1879

[5] Bruns P and Chibert Adamantine Epithelioma. A de méd. exp 1894 with references

[6] Mallassez Epithelial Detritus Found the Roots of Teeth in Adults A de Physiologie v 1885 Massin Congenital Epithelioma Originating from the Enamel V A 136 1894

Boedecker[10] states that the only known tumor of the pulp is malignant myeloma, as first described by C Wedl Boedecker adds one other example, but unfortunately nothing was known concerning the history of the pulps affected

In both cases, as seen by microscopic examination they were the so-called round sarcoma, or, as Boedecker prefers to call them, lymphomyeloma The term myeloma is used synonomously with sarcoma, some authorities objecting to sarcoma on account of its derivation from the word "sarkos" (Greek, flesh), whereas myeloma means what these tumors in reality are medullary tumors When combined with epithelial as well as connective tissues, we must not forget that they are termed "medullary carcinoma," and in some cases may lead to a wrong diagnosis

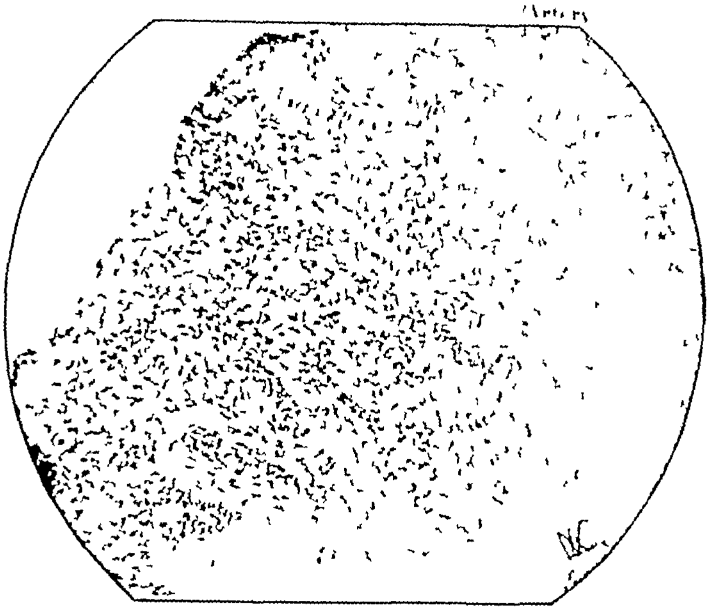

Fig 5 —L S cuspid pulp from another area of periphery Showing inflammatory cells arteries and the margin free from odontoblasts ×50

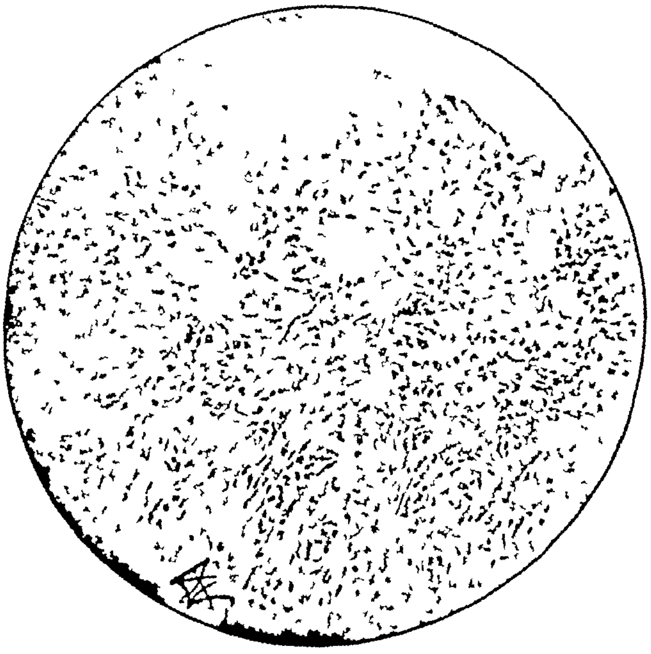

Fig 6 —T S cuspid pulp ×143 Showing horny or hyaline areas, here and there large cells and early masses with fibrous tissue resembling a scirrhus growth

Dr Juan M Alberdi,[11] Madrid, says, under affections of the dental pulp "The organic affections consist in tumors, which reside in this organ The tumors are hypertrophied productions, brought about by the simple hypergenesis of the normal elements of the tissue " The tumors are always the consequence of some lesion, especially penetrating caries, with exposure of the pulp They are smooth, of a grayish color, and sometimes of considerable size, covered by a pellicle, which is only a thickening of that which covers the normal pulp The treatment consists in removal of the pulp

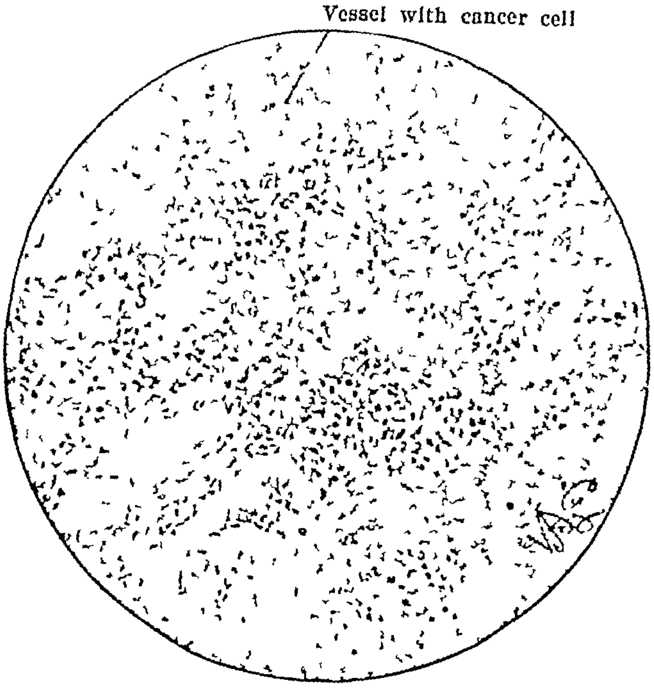

Fig 7 —T S peripheral surface of pulp ×143 Showing early whorls of cells large and small A bi nucleated cell to the left on the outer edge a vessel with a carcinoma cell in the wall

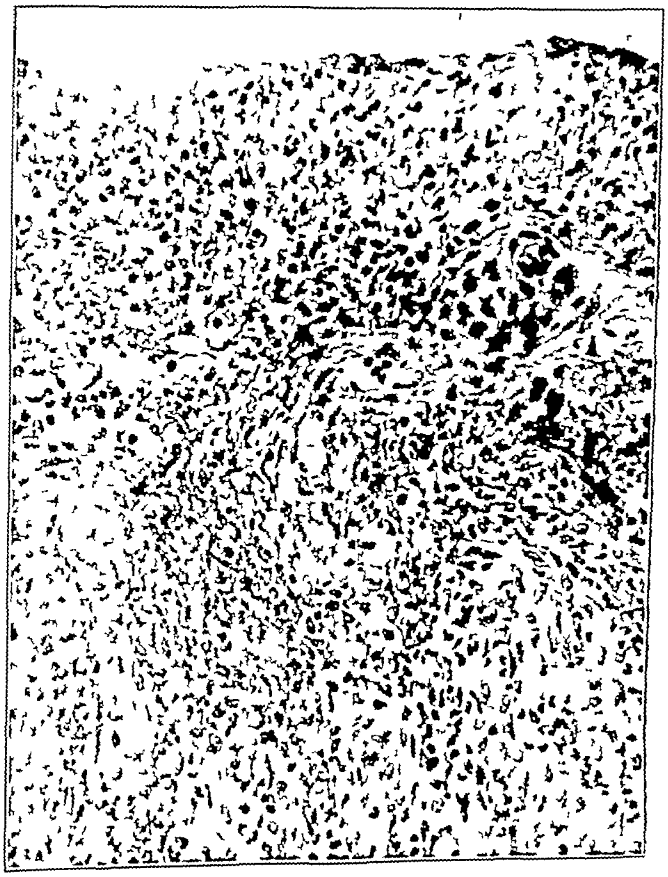

Fig 8 —Pulp ×240 Note the large cells in places of the inflammatory tissue around vascular areas

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7 Wedl Pathologie der Zahne, 1870 Transl
8 Salter Dental Surgery and Pathology, 1874
9 Black American System of Dentistry, p 915
10 Boedecker Anatomy and Pathology of the Teeth 1894

11 Alberdi Dental Cosmos, p 916 1902 Third International Dental Congress

Dr A Pont[12] (de Lyon) mentions a case of tumor of the dental pulp without caries, which is not a tumor pathologically speaking, but a polypus, or primary hypertrophied pulp with secondary inflammation without power to form secondary dentin, but which has absorbed the ivory dentin, which properly belongs to the tumor division as seen so often in the osteosarcomata and might incline one to place it in this group To what it was due is not clear, as it could not have been a chronic or hypertrophic pulpitis, there being no history of pain or caries It might have been an aneurism of the pulp, but absence of hemorrhage excludes that hence we will call it a hypertrophy of pulp with total absorption of the dentin without caries

When we review the histology and gross anatomy of the pulp and note its close relation with the connective tissue origin we easily see its liability to almost every known disease Its peculiar formation enables it to supply the nutritive needs of the tooth with the vascular and nervous endowments in which it is particularly rich

The study of pulp diseases is best made by obtaining the affected teeth immediately after they are extracted Great care is necessary that an observer be not led by his preconceptions Just opinions are arrived at only after a thorough examination and by comparison with many other similar cases Diseased conditions of the pulp are to be studied in the pathologic associations of inflammation trauma and new formations

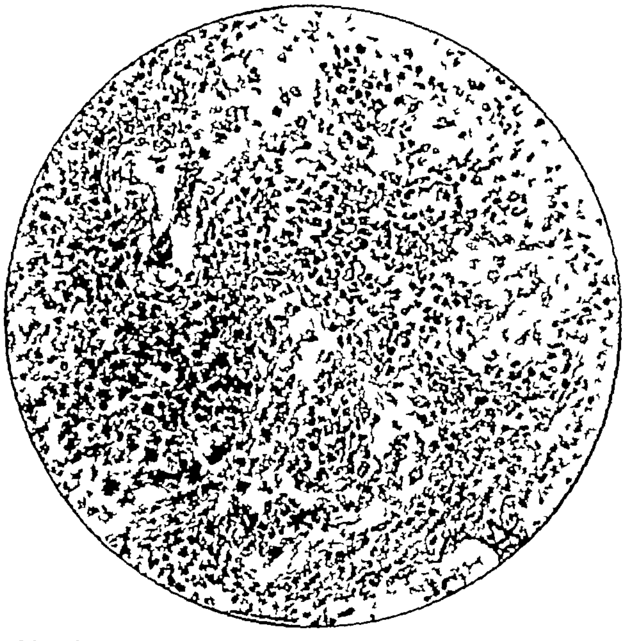

Fig 9—T S pulp nearer to the center ×2 Showing the inflammatory condition and the scattered cancer cells

Albrecht, in his monograph on "Diseases of the Pulp follows these divisions (a) disease of nerve (b) disease of blood vessels (c) disease of secretion To-day this will avail nothing as it is founded on no anatomic pathologic observation and only confuses by the intermixture of terms which is bound to exist

When we consider the position occupied by the teeth at the entrance of the alimentary tract the change of temperature varieties of food continual changes in blood pressure as a peripheral area and (in my mind one of the most important conditions to explain pathologic changes in their structure) liability to faulty development, fissures, cracks through acidity, abrasion, erosion, caries and the almost sure entrance of bacteria, as well as the relation and condition of surrounding structures as gingivitis, and the close effect of constitutional and systemic conditions of health is it any wonder we have hyperemia, which may readily be followed by more or less pulpitis, the quick follower of any irritation? Not always does it happen however, that pain does follow pulp exposure of the peripheral tubuli even when the inner aspect of the tubes is seen in a hyperemic state, the pulp is often found in a fair state of resistance The conductors of irritation, the odontoblasts, are common in their relationship to tubules and central organs, the filling up of these tubes and shrinkage of these cells break up the line of conduction, and this constitutes self-protection, then secondary deposits occur, and less pain usually follows If the condition progresses, we may have a pulp exposure, with all the signs and symptoms of pulpitis Pain is not necessarily an associate of the inflammation

When a pulpitis has been of long continuance the pain seldom is found restricted to the tooth but is apt to diffuse over all the trigeminal tract Sympathetic neuralgias are not the sequences alone of pulpitis one of the commonest causes being erosion just under the gingival margin

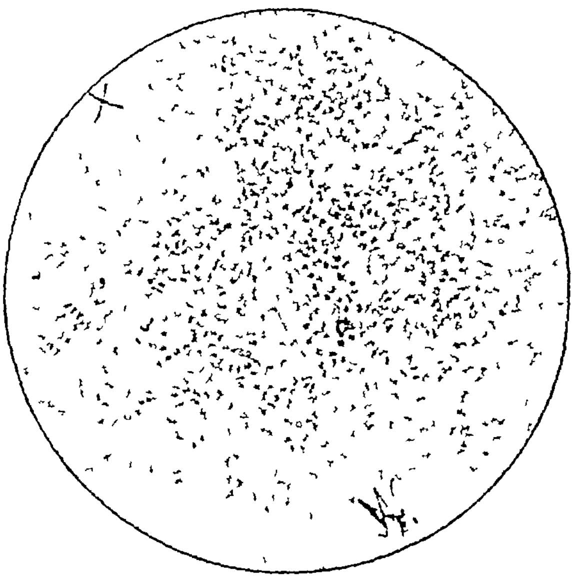

Fig 10—T S pulp following Figures 7 and 8 ×143 Showing medullary type of growth Multinucleated cells

Baume[13] considers pulpitis is rare in children, and only occurs when caries has attacked the organs before absorption begins

There are many sequelæ of inflammation which bear on the etiology of neoplasms 1 Chronic pulpitis, which may even be the primary condition 2 Suppuration 3 Hypertrophy 4 Gangrene 5 Periodontitis 6 New formations In chronic pulpitis we have little to distinguish between such as are inflamed or not death of the pulp following very rapidly in some cases There is no vital resistance but an unresisting decomposing greasy mass, which easily explains the loss of pain during death of the pulp

Suppuration—This is indicated by a sense of fullness uneasiness and weight and sometimes pulsation or boring pain which may be of slight degree in some cases, but may be accompanied by edema in and about the face in others This is one of the commonest forms of termination of chronic pulpitis Scanty watery pus, or pus of an acid nature is often met with where we have some constitutional disease, or where disease of the overlying parts has preceded or caused suppuration When pus is sealed in a cavity for any length of time, without external agencies, we find it very much thicker, pasty, and with a vile odor of putrescense, microscopically it is very rich in fat

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[12] Pont A J Odontologie Sept 17 1902 Dental Cosmos Nov 1902 Transl Ash s Quarterly Circular Dec 1902 Second report with microscopic findings in J Odontologie May 0 1903

[13] Dr R. Baume Lehrbuch der Zahnheilkunde

Gangrene may rapidly follow suppuration, the nutritional cells becoming pus The conditions due to congestion have been followed, and gangrene succeeds the high tension point of hyperemia the breaking up of the cell walls passage and transformation of the cells the coloring the tooth and the tissues melting down surely if slowly until all are destroyed fat drops running in all directions, and even covering all the nerves and vessels and ending in a dark colored greasy putrid mass—sphacelus, or tooth discoloration Dry gangrene is meant when evaporation of the circulatory secretions of the tooth has occurred.

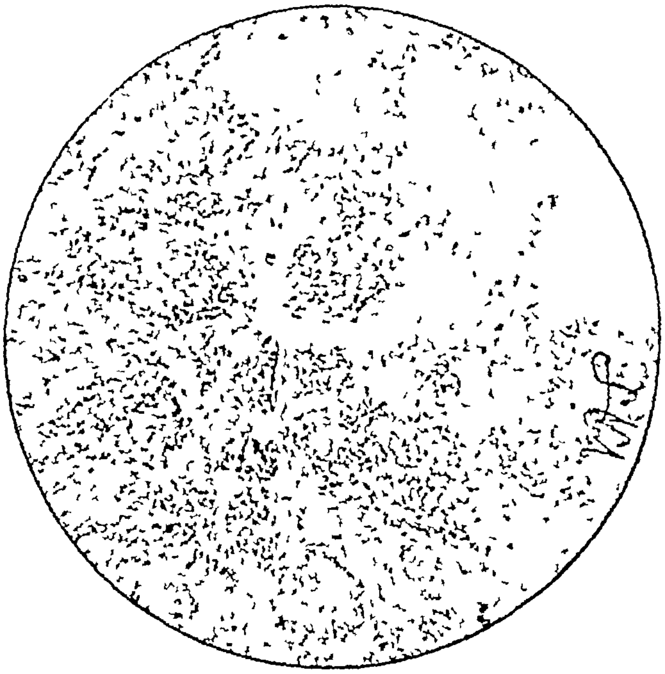

Fig 11—T S pulp continued *from Section 10* Medullary masses all through with a typical epithelial arrangement in the lower area Fragmentation ×137

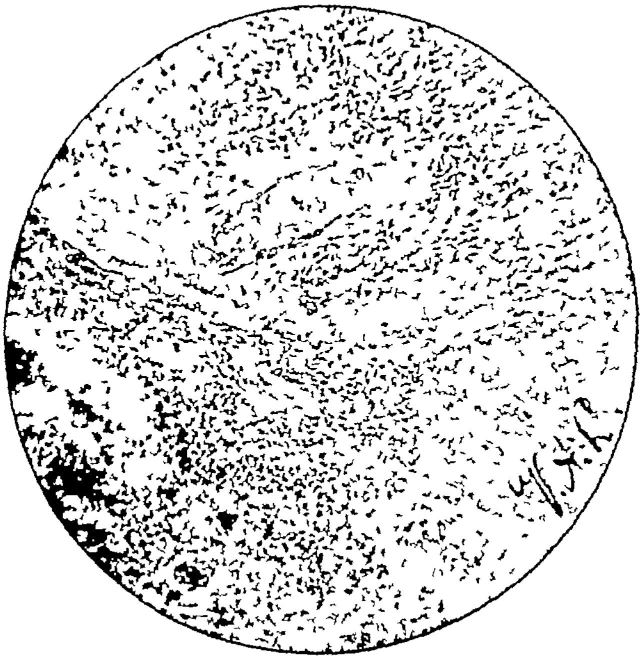

Fig 12—T S pulp ×137 Showing the change from the closely massed areas to the epitheliomatous cell nests and the pressure points surrounded by fibrous tissue—détritus

Hypertrophy—Inflammation may also cause a numerical increase in its constituents (hyperplasia), as well as hypertrophy, and form an enlarged mass so often and erroneously called a tumor True, the increase in the new growth is allied to the histologic structure in its cell elements and becomes a polypus resembling gum tissue, only projecting from the *interior* of the pulp chamber Microscopically, we see connective tissue, the vascularity being a characteristic feature The nerve element being wanting, sensibility is often lacking—*unempfindlich* Growth is rapid and often recurring readily, resembling malignant growths

Salter speaks of a "sensitive sprouting of the pulp" differing very little from the above, except that it is clearer and softer and its vitality implies a more abundant nerve supply It is often relieved only by extraction of the tooth

Romer[14] has reported an examination of thirty patients with polypus, and gives three layers of granulation tissue 1 Outer layer of pus cells 2 Wider zone of endothelial cells, and of capillaries with the appearance of gland strata 3 Strong tissue, with enlarged blood vessels and containing many round cells

When the teeth are extracted they are placed in 10 per cent formalin and decalcified in 33 1/3 per cent solution of formic acid They are cut in half with a razor and the part wanted embedded in celloidin and stained by any dye as alum-hematoxylin, and picrofuchsin (Van Gieson) or by *Weigert's method*

In the head of the polyp no nerve fibers were seen, but in pulp chambers and root canals were nerve bundles, *varying according* to the degeneration found, which consisted usually of fibroid elements seen best in teeth whose pulps have been exposed by fracturing the tooth *in faulty extraction* In the case under consideration there was little to note as being unusual

The patient, an elderly woman, aged 56, stout build, neurotic type, with signs of bronchial irritation and asthma (two sisters having died of cancer) called to see me regarding a partial plate After examination I advised that the few remaining teeth be extracted, as she gave a history of continued neuralgia around the face and head The teeth were scattered in the mouth, and only the right upper first premolar and cuspid seemed peculiar, the former having a queer reddish color, no carious spots or other evidences of decay The mouth was very cleanly kept, slight irritation of the gingivæ around the teeth and a feeling of uneasiness about the premolar On percussing, I found that the nerve was not dead, but evidently congested On extraction, hemorrhage was free and the tooth seemed to give way reluctantly, with a feeling of pulling from the apical attachment (hyperplasia cementum) I dropped it at once in warm saline solution, and then extracted the cuspid, which was an oddly shaped tooth, of a queer greenish white tinge, so noticeable that the patient many times said people asked what was the matter with it The cuspid was exceedingly difficult to remove, and on its coming out a dram of yellowish clear fluid oozed from the alveolus The apex of the root was covered with a thickened layer of peridental tissue, and I wondered if it was an abscess sac that had ruptured, the foramen showed a whitish thread hanging as the pulp, and I saw no evidences of suppuration, but some hypercementosis So I preserved it in salt solution The socket I carefully cleansed with peroxid of hydrogen, there was no effervescence to speak of, except when bleeding Then I probed the cavity and finally curetted it as thoroughly as I could, applied tincture iodin, and then 95 per cent carbolic acid, and plugged with gauze and wool This I did for nearly a week, and then allowed the cavity to close It healed steadily on the slow and gradual withdrawal day by day of the gauze tampon The patient so far (after three years) has had no recurrence nor trouble, and seems much more comfortable using no upper plate yet, as she prefers to wait

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[14] Römer Ueber Pulpa Polypen der Zahne Corresp Blatt f Zahnarzte C Ash Berlin Jan 1892

The teeth were removed from the saline solution and carefully opened one longitudinally, and the cuspid transversely about half way, and the root longitudinally under normal fluid till appearances were noted, and then it was changed to Zenker's solution The cuspid had a fairly solid pulp, whitish green It looked like a fibroid, and was springy to the touch like a myxoma I made microsections and reproduce some photomicrographs from them Taking the pulp at different levels, we find it complex and offering an unusual appearance

Several points are worthy of note (Figs 1-2) 1 Evidence of granulation tissue and pulpitis 2 Slight sclerosis or fibrosis 3 Slight hyaline degeneration in this area 4 Small vessels surrounded by fibrous thickening 5 Many polymorphon leucocytes were scattered through-

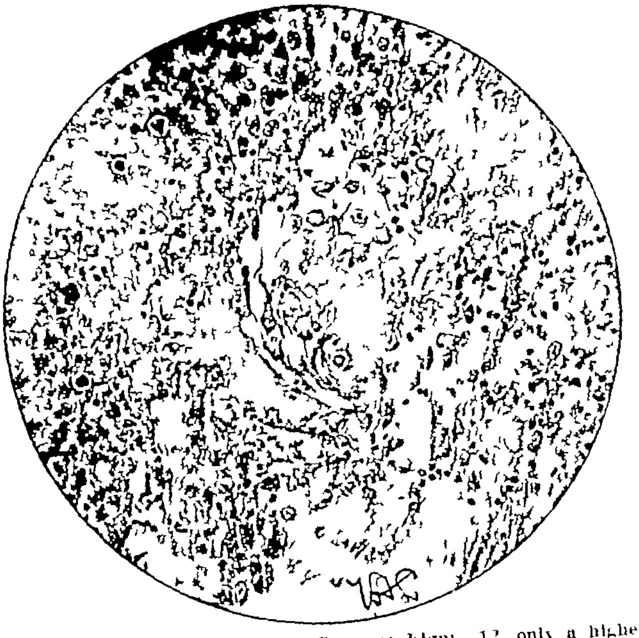

Fig 13—T S pulp ×225 Same as Figure 12 only a higher magnification to show the epithelioma with layers of cells Nucleated characters plainly seen Yeast infection

out, in some places massing together like a round-celled infiltration and mixed in with bands of fibrous trabeculae (Figs 2, 3 and 4) 6 Near the outer edge were more deeply stained cells and better formed fibrous tissue, which gave a more homogeneous appearance to the cells, and at one side was a dark bluish irregular body a calcospherite or pulp stone longer than it was wide and with a poorly stained area around it (Fig 1) At one edge of the specimen was an almost glistening hyaline mass of cells, inflammatory, and with some cells much larger than others and multinucleated lining the fibrous stroma spaces, almost like scirrhus cancer (Figs 5 and 6) Some of these cells were massed in cluster-nests showing signs of considerable pressure some cells staining a pale hyaline pinkish color, with the nuclei taking a darker stain like cartilaginous cells others appearing horny and taking no stain A number of dyes were used prominently hematoxylin and eosin Van Giessen and Ranvier's picrocarmine and logwood picrofuchsin and nigrosin safranin Unna's polychrome-methyl blue

A method that will be found very useful for gum tissue, polypi and epithelial structures is one modified and suggested by W R Smith, M B Stain the section on the slide with hematoxylin and alum carmine, wash with water and put on the slide, dehydrate with absolute alcohol, stain a few seconds with a saturated solution of saffranin in anilin oil water, of which most is removed with blotting paper, run over the section absolute alcohol for a few seconds and immediately drop on clove oil, mount in Canada balsam in xylol or chloroform Great care is required in the washing out, it must only be partial Too little alcohol in the washing leaves the stain in the normal tissues, and does not differentiate the cell nests from these or from other epithelial structures Too much alcohol removes the whole of the stain from all pathologic and normal tissues If sections are cut fresh, it is much harder to stain with hematoxylin and to dehydrate For fresh sections, soak a few minutes in 4 per cent formalin or methyl alcohol and then use alum carmin and wash thoroughly in water, and dehydrate The carmine stains faster if gently warmed In studying these specimens we must clearly note

1 Whether normal non-pathologic growths of epithelium in the form of processes are growing inward from an epithelial surface, e g gum, epidermis, mucous membrane, pulp or glandular organ which can resemble an epithelial pearl when cut in some ways

2 Pathologic processes, papillary prominences, epithelial columns of homogeneous masses of epithelial cells with ovoid nuclei (papillary prominences of Lebert), which may be found in the surrounding tissue, and simulate cell nests Neither of these correspond with Billroth's classical description of cell nests What distinguishes these masses in their earliest known form? (Figs 7 and 8)

They appear at first sight like spherical or oval cysts from 1/100 to 1/500 of an inch in diameter walled in by irregular fibrous tissue, and containing granular matter, nuclei or cells within them They may be in cluster or cylindrical, their nuclei are shriveled or not visible, contents often granular

The termination in horny material is an extreme form of specialization, and such is not the destiny of all cell nests Indeed, the study of these extreme forms is much desired, for observers have thus been misled as to the true nature of the structure and mode of growth of cell nests in general[15] (Fig 13) In all probability epithelial cell nests start from one cell, by division and subdivision, except in such a disease with large pearls, as seen by Hamilton[16]

In Figures 7 and 8 we find a single cell with two nuclei standing out, around it various sized cells are massed, forming an early cluster and surrounded by one outer layer of cells, in places, only a single cell and small cohorts of a few cells each In some places we find here and there a thickened capillary or arteriole, showing well-marked cells lining the endothelium (Fig 7) here and there a large cell and nucleus or an alveolus filled with a cluster of cells almost forming an island (Fig 10)

We find masses like those just described mixed in with the small-celled infiltration of Virchow indicating active proliferation and irritation with the intermediate areas breaking down or staining only poorly but with here and there well-marked nucleated cells Lying near these masses we see some typical cell nests with granular détritus among them, singly and in groups. How these cell nests grow is yet to be understood. Paget[17] is in favor of the theory of the growth being from one central cell, and Snow,[18] who, with others, gives us a theory of surrounding pressure, says "a small area of cells always appears as the original point of the globe, never a single cell." (Figs. 9, 10, 12.)

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[15] Woodhead's Pathology second edition 1885 p 481 third edition 1892 p 174

[16] Text book of Pathology 1889 part 1 p 406

That this specimen is a carcinoma epithelioma, is very evident. It certainly can not be classed, like Wedl's and Boedecker's cases, as a lympho-myeloma or round-celled sarcoma, for it certainly possesses epithelial nests, fibrous trabeculæ, and stroma, lined with large cells, granulation cells of the polynuclear type, degeneration and a reaction to dyes that marks the carcinoma group. (Figs. 6, 7, 11, 12, 13.)

"In polypus of the pulp the parenchymatous connective tissue is the seat of the proliferation described as sarcoma of the pulp, in which the parenchyma is gradually destroyed, and indicated by the absence of nerves and the altered character of the blood vessels. As the sarcoma is located on the outside of the remains of the pulp it serves in a measure to protect the latter."[7]

The study of the odontoblasts is a very vexatious one, as on account of their close relation to the dentin it is difficult to procure good sections without decalcifying the hard tissues, or preparing a tooth by the Koch-Weil process, which loses much valuable material, and the disarrangement of the pulp, unless this is done, renders it valueless.

In removing the pulp from its chamber the layer of odontoblasts clings tenaciously to the dentinal walls either partly or as a whole, and hence we can easily understand how little progress has been made in this study. Black[9] states that this layer of cells seems to remain unchanged in acute inflammation until combined with suppuration. This seems, judging from my own work, to be hardly the case, for the cells are seen in every state of disease, and many times are not present, showing plainly the odontoblast cells act very similarly to the ciliated cells in bronchitis, and the falling off before the pulp is very much affected shows how easily any irritant affects the deep pulpal ends of the cells, and so causes atrophy and degeneration. (Figs. 4 and 5.) Hopewell Smith also shows illustrations which correspond to my own slides of inflamed odontoblasts, showing in some a numerical hyperplasia. It would be an interesting study to make careful sections of pulps *in situ* and extracted from teeth excised in cases of neoplasms of the jaw, as myeloid sarcoma, epithelial growths, fibroma, epulis, etc., and so note if the pulp shows any metastatic deposits or any other pathologic conditions. I have a few specimens so made which exhibit many problems for elucidation, and especially as regards their origin.

In the specimen here presented it may be asked how and from what did this growth originate. The teeth were to all appearance, sound; even with an aplanatic lens nothing could be seen but the change in color, which gave me the idea of a dead tooth, and the percussion note was negative. The sensitiveness and neuralgic pain pointed out pulp and peridental irritation. Stanley Colyer[20] shows a "burrowing epithelioma from the periodontal membrane" which illustrates my section of neoplasm of the pulp very well, but he found the pulp dead and suppurating. His theory as to origin would certainly be questioned by many of the workers in carcinoma to-day. (Figs. 11 and 13.)

If we accept the theory that "like cells produce like," then how did odontoblasts produce epithelial cells, if the former originate from the stomodeal mesoblast, i. e., from the periphery of the dentinal or pulp organ? If odontoblasts could be proved as arising from the epiblast or hypoblast, many difficulties would be removed. Their nerve endings and their close relationship to the cells at the terminations of the optic and auditory or sensory nerves, not only as regards the physiology, but the morphology and pathology, their functions being allied somewhat to the glandular organs as in the stomach and intestine, namely, secretion, excretion and manufacture of chemical problems for metabolism and the situation and better development of odontoblasts at the coronal cervical part show that we have here a close relationship of epiblast and hypoblast structures. This points to the nerve impressions passing through the tubules, and shows a closer relationship to the nervous system than is usually given.

In looking over the question of treatment we must note the use of the cautery, escharotics and iodin. In this instance, the best and only treatment was extraction, and if it had not been for the usual plan of study by breaking open the teeth and making sections, the great danger the patient ran would never have been recognized, and the chance of continual watching afterward, as well as the curetting which was done, would have been lost. It is well known that arsenic has been accredited with causing epithelioma, and J. Hutchinson[21] considers that many of the cases of multiple cutaneous sarcomata may be fairly attributed to the use of iodin and its salts. When we note the frequency with which iodin is used in dentistry, externally and internally, that many patent medicines contain it and consider its use in the arts, photography especially and in the preparation of the antiseptic gauzes, we can find another point for study. The frequent stimulation used by dentists for pericemental and periodontal irritation should cause an increase in hypertrophy, gingivitis and the papilloma and epulis forms of growth to say nothing of the epitheliomata, but I think it can be shown we have less neoplasms in the oral cavity now than formerly, due, possibly, to better hygiene and methods of operating.

CONCLUSIONS

The points of interest are:

1. The freedom from urgent symptoms beyond neuralgia.
2. The great rarity of neoplasms of the pulp.
3. Lack of literature and careful pathologic and histologic study.
4. The want of further and more complete examination of the tooth structures in relation to the pathology of neoplasms of the jaw.
5. The question of metastases in the pulp from periodontal tumors.
6. The value of microscopic study should be urged in dental schools, as an aid to differential diagnosis and treatment.
7. The changes which may attend the killing of pulps by irritants and care to thoroughly cleanse the pulp canals.
8. To emphasize the better treatment and value of closing up fistulous openings in the gingivæ for fear of

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[17] Paget: Lectures on Surgical Pathology, third edition, 1870, p. 720.

[18] Snow: Cancer and Cancer Processes, London, p. 65.

[19] A. Hopewell Smith: The Histology and Pathological Histology of the Teeth, 1903.

[20] Stanley Colyer: Trans. Odont. Soc. Great Britain, June, 1901, pp. 231-242.

[21] Archives of Surgery.

ming up of Dr. Andrews' paper is the desirability of retaining the pulp in a tooth for other than formative purposes. Dr. Andrews' position on the retention of the vitality of the pulp when not diseased is probably correct. When a pulp becomes exposed there are certain changes that take place within a certain period which render that pulp as a normal organ valueless, and it might just as well be destroyed. Referring to the paper of Dr. Latham, I think perhaps the extraction of that tooth was correct, but I challenge the statement that there is no method of knowing whether the pulp has died because we have ample means at present, although somewhat imperfect, of determining whether the pulp is alive.

Dr. V. A. Latham.—I said that our means of diagnosing dead teeth was not as yet very perfect or absolute.

Dr. A. W. Harlan.—So far as determining the vitality or non-vitality of the pulp is concerned, I should contend that with heat, cold or electricity we can determine that absolutely. I was interested in Dr. Talbot's statement that abnormalities of the teeth occur from non-use. In the publication of Oakley Coles more than 50 years ago, there are shown a number of abnormalities of the pulp. It is absolutely certain that when a tooth is not in use it deteriorates either by elongation or by the growths on the external surface of the root, or that it gets out of position and the tissues around the root become so inflamed and irritated that it becomes a useless member. It is further absolutely determined that in the rapid eruption of the teeth certain changes of the pulp take place. The chewing of tobacco and the holding of pipes in place also cause changes in the pulp. When the pulp is diseased we have a formation which may be in the shape of a cyst, and within that cyst we may have a deposit of calcareous matter which is a pseudo form of tartar. There are growths around the ends of the teeth after the pulps die that may cause serious disturbance of the general system so great as to result fatally. I would therefore, conclude that when the pulp becomes exposed it should be destroyed, no matter whether it is surgically removed or poisoned; destroy it so that you will get every vestige of it out. The root of the tooth should be filled and there should be a sufficient amount of contact with the opposing jaw to keep the tooth in use.

Dr. J. L. Williams, *Boston*.—Pulps that are nearly exposed and not diseased I have proved in years of practice can be saved and means taken to protect them, but, after a pulp has become inflamed I have learned not to expect its total recovery. It may be kept comfortable, but I suppose its nutritive quality is lost, and I often question whether it is worth while to tamper with it. Some years ago I saw a case in which the pulp was exposed but not wounded. I tried a process of treatment, which I was the first to introduce and systematize. I made the softest possible antiseptic covering for it, I looked at it at the end of a month and again treated it. At the end of about a year I opened it. It looked perfectly clean, and in passing my instrument over the transparent secondary dentin there was *no sensation*. It was then filled. In two years the tooth decayed on the other side. There was some sensation on excavating the new cavity, showing that we should discriminate between an exposed pulp and a diseased pulp. I do not believe that when a pulp has its growth it does not contribute to the continued welfare of the tooth. When it can be made healthy it should be saved for the benefit of the tooth.

Dr. E. C. Briggs.—We should bring out clearly that the idea brought forward is not that one is to go around slaughtering pulps of teeth, but that, if things are in any way wrong concerning the teeth, the chances are that there is more menace from the presence of the pulp than without it. In answer to Dr. Bogue, I do not like to have the principle destroyed by his questioning one's ability to remove the pulp. I do not pretend that I can do these things, but I think the chances are that I or some other one will find a perfect way of doing this work. We are doing now a great many things that could not be done ten years ago. The underlying principle is not affected.

Dr. E. A. Bogue.—Dr. Dawbarn, in a paper on malignant growths, speaks of an operation of his own devising, viz., excision of a portion of both external carotids, after ligation and *in speaking of* that he has two or three times wondered why we as dentists did not more often observe the *incipient beginnings* of cancer. He says that sarcoma and carcinoma are acted on quite differently by his operation. In sarcoma he has had no instance up to the present in which he has felt that his operation has been a failure. In carcinoma he regards the operation as helpful only *for a short time*. That brought to mind Dr. Latham's case, which would show that it was through the circulation that carcinoma took its way, while sarcoma may more particularly be called a local condition. I hope we may have a further report concerning Dr. Latham's case.

Dr. Talbot.—There has been for several years a symposium on the dental pulp and the results have been more than satisfactory. Dr. Andrews' paper is far reaching and I fear the importance of the paper is not understood. It has *been* discussed from the degeneration standpoint, but the fact has been lost sight of that the pulp at any period of life has its influence on tooth structure. The paper is most valuable, because it leads to the point of the necessity of the vitality of the tooth. If it be *necessary*, as Dr. Andrews shows, it *must* follow that diseases of the human body have a great influence on tooth structure. It must be admitted that there is a difference between supposition that certain conditions of the pulp exist or that they have been found and actually demonstrated. Supposing a *condition* exists in the human body, to state it is one thing, to demonstrate it another. I wish all these papers on the pulp could be published in book form. It would be a most remarkable collection of papers.

Dr. Latham.—I came before this Section asking for a diagnosis, for advice and also for bibliography. My main object was to bring my contribution before the Section for discussion as to the origin of the growth. I have held this case in hand for some three years and only recently thought of publishing it. I have had experts in Germany and in England looking up bibliography for me with no success. The papers are not published in a way easy to be found, especially since the *Dental Cosmos* stopped its bibliography, and I would suggest greater care in choosing titles. I ask from what tissue did this epithelioma arise if the pulp is a mesoblastic structure?

ASCARIS TEXANA

A NOTE ON A HITHERTO UNDESCRIBED ASCARIS PARASITIC IN THE HUMAN INTESTINE.*

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AND
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The following note is based on two female specimens of an ascaris submitted to Dr. Smith by Dr. Goeth, who had obtained them from Dr. Ferdinand Herff of San Antonio, Texas. Together with a number of other examples supposed to be of the same kind they were passed in the intestinal discharge from an adult white man in care of the latter physician, the patient stating that for several years he had passed similar parasites from his bowel (some of which were slightly larger than the two samples given his physician, but apparently of the same type) and complaining of his inability to rid himself of the pests, which however, gave him no particular physical inconvenience. Efforts to obtain other specimens since last year when these were passed have thus far been without success, and the absence of a male example renders the establishment of the full specific description impossible for the present. Moreover, the two specimens when sent by Dr Goeth had been mounted unstained in balsam on glass slides, and, from the influence of the reagents used in the balsam-mounting medium as well as from compression and division of each specimen into three lengths for convenience of mounting were not in favorable state for detection and clear recognition of many of the finer details needed in the study Sufficient data may however be determined from the material in hand to surely differentiate the worm from the known ascarides of the human intestine and to make the idea of its identification with other known members of the genus improbable Attempts to stain one of the samples for better definition of the minute structure have not been attended with any success

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

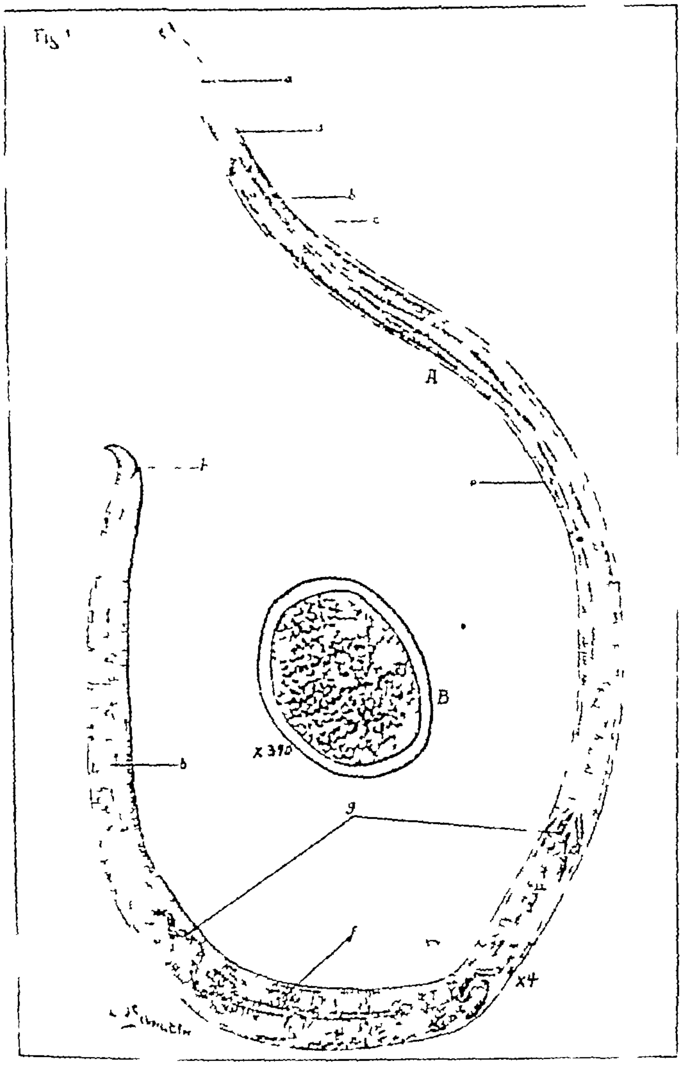

Fig 1 —A Low amplification of female *Ascaris texana* a esophagus b intestine c longitudinal cuticular band d poison glands e vulvar orifice f uterus containing ova g ovary h anus B Ovum

We hesitate to insist on the absolute correctness of the view of the novelty of the species until the description following may be verified by study of fresh material and male specimens but we feel that from the data in hand the specimens presented may at least be tentatively accepted as constituting a new species, and would suggest that it be known as *Ascaris texana*

The two specimens closely agree grossly and minutely They measure respectively 58 and 60 mm in length and at the thickest part 1 and 1 5 mm in thickness (taking no account of modification from shrinkage from the preserving and mounting reagents employed and the widening consequent on compression of the specimens) One should recall in this connection the patient's statement that other samples discharged ranged slightly larger than the ones described

The specimens when fresh were practically colorless or slightly yellowish cylindrical or subcylindrical, tapering through a long anterior half to the head, rapidly tapering from close to the anus to a slightly dorsally curved and mucronate tail the thickest part of the worm being in the region of its posterior third The cuticle is finely striated transversely, and in the compressed specimens one lateral longitudinal band may be clearly made out No alæ as in *Ascaris mystax* are recognized anteriorly or posteriorly The three lips of the genus *Ascaris* are well developed broadly conical interlabia being present reaching close to the level of the oral membrane between the lips The lips are of a rudely hexagonal shape the base forming the sixth side and the lateral and basal angles being rounded The anterior border is slightly concave and the anterolateral more distinctly so, the posterolateral convex, the anterior and posterior the smallest On the internal margin of the anterior border of the lips are a number of small tooth-like papillæ, the remainder of the free borders being entire and smooth The superior lip is slightly larger than the inferior ones, although the difference is apparently but little The pulp of this lip rises from the esophageal musculature, passing forward close to the anterior border of the lip where it is subdivided by a depression, the "saddle," into two paired lobes each of which bears four or five lobules of papillary appearance which extend anteriorly or anterolaterally An unpaired lobe projects on the inner surface of the lip in somewhat of a keel shape toward the base of the lip giving the usual triangular shape of a transverse section of the lip at this level Each of the inferior lips is provided with a pulpa symmetrical with its fellow the pulpa of the superior lip being bisymmetrical i e its lobes are symmetrical or paired with

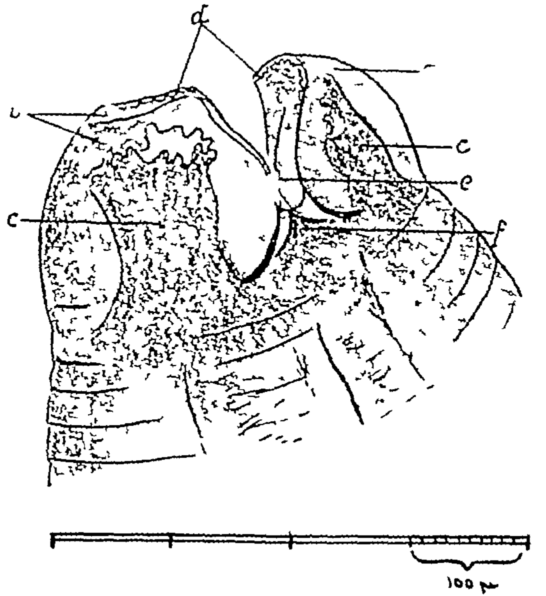

Fig 2

Fig 2 —Lips of *Ascaris texana* (camera lucida drawing from compressed specimen) a superior lip b inferior lips the left overlying the right c pulpa d denticulate anterior margin of superior and right inferior lips e keel of superior lip on inner surface f interlabium

each other The oral cavity opens directly into the muscular esophagus of long, slender flask shape, terminating 31 mm back of the base of the lips, this opens apparently by a valve arrangement into an intestine, which runs a nearly straight, slightly sinuous course to the posterior end of the worm, terminating at the anus, close to the tail on the ventral side Along the esophagus and anterior end of the intestine for a distance of 12 mm from the base of the lips apparently in two masses, may be traced a finely granular material which probably represents the so-called "poison glands" of the ascarides, and for some distance along the intestine a fine granular exterior probably represents the remnants of digestive cells The anal opening is a transverse slit 1 150 mm from the tip of the tail The number and arrangement of pre-anal and post-anal papillæ are doubtful from the specimens in hand, two well-marked post-anal ones are clear, 0 5 mm back of the anal orifice

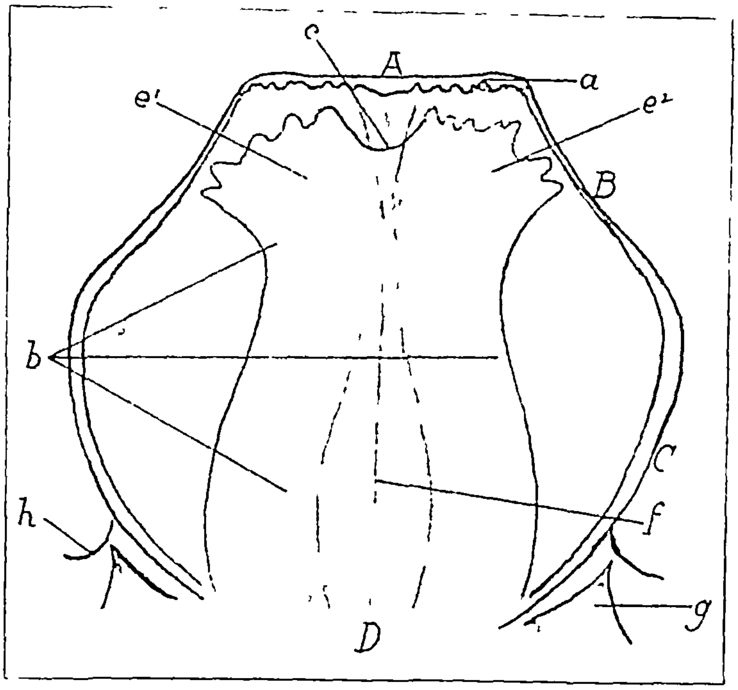

Fig 3 —Inner aspect of superior lip (constructed) A B C D anterior anterolateral posterolateral and posterior sides of same a denticulate anterior internal border b pulpa c saddle e¹ and e², paired lobes with lobules f unpaired lobe forming keel of lip g interlabium h border of interlabial oral membrane

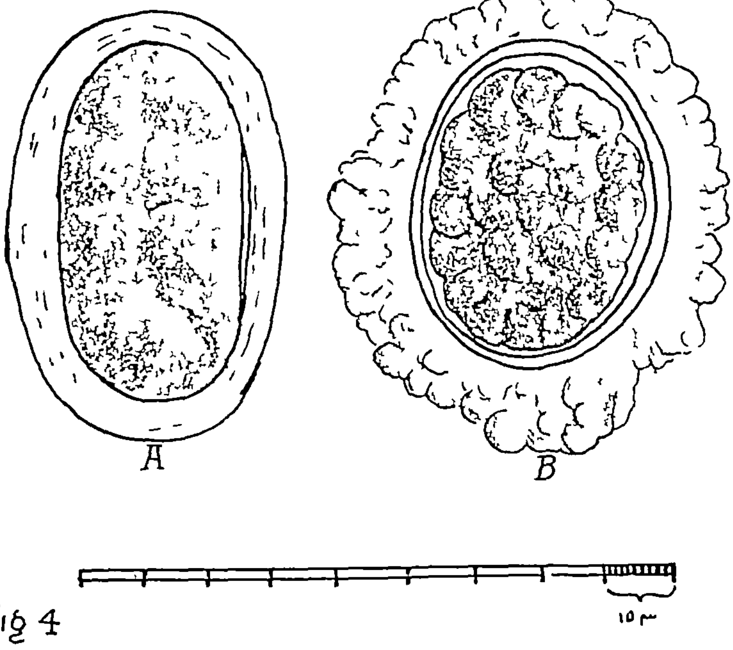

Fig 4

Fig 4 —A Ovum of *Ascaris texana* drawn from specimen in uterus B Ovum of *Ascaris lumbricoides* drawn for comparison from examples taken from uterus of formaldehyd specimen

The sexual orifice is not certainly determined because of the condition of the material, but what is regarded as such, because of the prominence of the lips and the appearance of sphincter-like folds in the cuticle about it is situated 2 cm back of the base of the lips, just anterior to the level of the uterine canal In neither of the specimens studied could the vaginal tube be traced There are two ovaries, anterior and posterior, plicated along the intestine and uterine canal Within the latter in both specimens are large numbers of ripe and often well-segmented ova, colorless, provided with a thick wall, without visible external marking or envelope as are met in the eggs of certain of the ascarides They measure 60×40 microns, with variations of 4 to 5 microns in different ova measured The interior is granular no nuclei being appreciable in the specimens at hand

Whatever other features may later from fresh material be learned of this worm, it may be without doubt placed in the series of ascarides, with toothed anterior labial border and with interlabia, a feature which, aside from other gross and minute features, excludes all ascarides at present known to be parasitic in the human intestine (which with others of the genus are unprovided with either), and which, likewise, separates it from a considerable group which with auricles and interlabia in the labial structure, fails to present such denticulate margins From other examples of ascarides which like it, present six-sided lips with denticulated free borders and interlabia, it is distinguished by the fact that it has the denticulation present only on the anterior concave border by the shape of the lip and the arrangement of the pulpa of the superior lip From its general appearance it is most closely allied to ascarides known to be parasitic in certain birds and reptiles

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART I A HISTORICAL SKETCH

(Continued from Page 462)

(D) DR WYMAN'S ADMINISTRATION (1891 TO THE PRESENT)

Surgeon-General Walter Wyman had done much for the sailor and for the service before he became surgeon general He had frequently called attention to the physical conditions affecting seamen of the merchant marine, and after he became surgeon general was instrumental in having laws passed for their benefit, notably one for the relief of the deckhands on western river boats, who, by reason of inadequate quarters were unprotected from the inclemencies of the weather When in command of the Marine Hospital at Baltimore, he exposed the cruelties to which crews of oyster boats in Chesapeake Bay were subjected and succeeded in causing amelioration of their condition As surgeon in command of the Marine Hospital at New York, he recommended and established, with the consent of Surgeon-General Hamilton, a laboratory for the study of bacteriology and pathology, which was later moved to Washington and which, under his fostering care as sur-

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EDITOR'S NOTE.—This article began July 30 The Army Medical Department was discussed May 7 14 21 28 and June 4 geon general, developed into the splendid institution now known as the Hygienic Laboratory of the Public Health and Marine-Hospital Service

As surgeon general his intense interest in the physical welfare of the sailor in no wise lessened, and he originated and carried to consummation the idea of a sanatorium for consumptive sailors at Fort Stanton New Mexico

Owing to the lack of a strong federal quarantine law the United States in 1892-3 faced one of the most dramatic crises in its history The dreaded specter of Asiatic cholera emerged from the filth of its oriental home, and appeared in the seaports of western Europe The history of past appearances of cholera in Europe in seaports showed that an epidemic in America invariably followed, and the prophecy was made everywhere that history would repeat itself The outbreak of an epidemic of cholera in our seaports at this time would have resulted in the utter failure of the great Chicago Exposition of 1893 and the failure of this exposition would have carried financial ruin to thousands, and caused commercial paralysis throughout the entire country To meet this emergency the quarantine law of 1878 was lamentably weak The chief danger existed in immigration and the weak spot in our quarantine law was the lack of federal authority to enforce uniform requirements in regard to inspection and disinfection of ships and baggage

The power of the National Government, as expressed in that law, was restricted to aiding state and municipal quarantine authorities in the exercise of their functions The power to frame regulations under this act of 1878, it is true, rested in the Secretary of the Treasury but such regulations must neither conflict with nor override any state law or regulation existing or which might be enacted The proper uniform disinfection of immigrants' baggage being impracticable, it became evident that the only other effective safeguard would be to temporarily suspend immigration In this crisis Surgeon-General Wyman searched the quarantine laws of the various states for some uniform requirement which would accomplish the desired result He found that in every seaboard state a law existed providing for the detention of suspected vessels for periods of twenty or more days Therefore a government circular demanding the detention of immigrant vessels from cholera-infected seaports for a period of twenty days would not be inconsistent with state laws, but, on the contrary, would be aiding state quarantine laws already in force Accordingly, the surgeon general prepared a circular providing for detention of immigrant ships from infected ports for a period of twenty days This circular was promulgated by President Harrison, and while it seemed like a reversion to the obsolete practice of Venetian quarantine, it was in reality expected to temporarily suspend immigration It was rightly surmised that the immense expense attendant on twenty days' detention of immigrant vessels would so minimize the steamship companies' profits that they would be compelled to suspend the traffic for the present The effect was pronounced and startling Immigration was practically suspended, and the menace of a great cholera epidemic was removed

The absolute stoppage of immigration from any country, even temporarily, was then, as now, deemed inadvisable for obvious reasons, yet this circular effected the same result without giving ground for valid international complaint To supplement the system of detention or virtually exclusion of immigrants at our seaports resulting from the circular and prevent evasion of the law, it was necessary to establish a quarantine inspection service along the Canadian border By the courtesy of the Canadian government, officers of the Marine-Hospital Service at Quebec examined immigrants destined for the United States, and supervised the disinfection of their suspicious effects The inspection on the Canadian border extended from Maine to Dakota at all points of railroad crossing This rather drastic remedy was only intended to protect the country until Congress should meet and have an opportunity to devise an adequate system of protection under federal authority involving less restriction on commerce

Congress recognized, when that body reassembled in December, 1902, the grave national danger from cholera which had been temporarily averted by the President's circular and as a consequence passed a law, approved Feb 15, 1903, entitled An act granting additional quarantine powers and imposing additional duties on the Marine-Hospital Service"

This act of Feb 15, 1893, placed all matters pertaining to national quarantine in the hands of the service and provided for the formulation of uniform regulations to be observed by all state and local quarantine authorities in preventing the introduction of epidemic diseases from foreign countries, and the spread of such diseases from one state or territory to another

The regulations were promulgated by the Secretary of the Treasury, and the Surgeon-General of the Marine-Hospital Service was charged, under the direction of the secretary, with the performance of all the duties in respect to quarantine and quarantine regulations, which were provided for by the act The law further provides that if the states or municipalities should fail or refuse to execute the quarantine regulations, the President should appoint a proper person to execute them

Under the provisions of Sections 2, 3 and 4 of this act medical officers of the Marine-Hospital Service have been detailed to serve, and are now on duty, in connection with the consulates at various foreign ports and from them all necessary information is received relative to the sanitary condition of vessels, cargoes, crews and passengers about to depart for the United States

By this means the ordinary consular bill of health is made to be a certificate of actual observation by a responsible officer whose sole duty is to aid in the prevention of the introduction of contagious diseases into the United States

Under these new laws and regulations, Surgeon-General Wyman instituted an inspection of all state and local quarantines, requiring them to conform to the standard of the Treasury Department Many of these state and local quarantines have since been transferred to the service, and the remainder have, under federal supervision, enforced regulations, affording adequate protection to the country

During the administration of Surgeon-General Wyman, the public-health work of the service has increased rapidly not only in the duties of national quarantine, but in other directions

By the immigration act passed in 1891, and also by the subsequent immigration acts of 1893 and 1903, all incoming aliens must be examined physically by medical officers of the United States Public Health and Marine-Hospital Service The importance of this duty from the standpoint of public health can scarcely be overestimated It is essentially a public-health function and properly performed excludes a class of aliens which, if admitted would be not only detrimental but dangerous

On March 12, 1896, the chairman of the Committee on the Merchant Marine and Fisheries forwarded to the Secretary of the Treasury a letter inclosing schedules of provisions for seamen, in bills then pending, and requested that they be referred to the Surgeon-General of the Marine-Hospital Service for his opinion and suggestions for their amendment.

In accordance with this request, the surgeon general convened a board to prepare a proper schedule or scale of provisions to be allowed and served out to crews of merchant vessels during the voyage. With a few minor changes Congress accepted the schedule, and it was enacted into law. The measure protects the merchant sailor while on long voyages by compelling masters to furnish him with proper and sufficient food.

The act further requires that "the foregoing scale of provisions shall be inserted in every article of agreement and shall not be reduced by any contract, except as above, and a copy of the same shall be posted in a conspicuous place in the galley and in the forecastle of each vessel," and provides for a survey by three persons, one of whom, if possible, shall be a medical officer of the Marine-Hospital Service, to pass on the provisions furnished when complaint is made, as provided for by the act.

Surgeon-General Wyman, early in his administration, pointed out the perennial peril to which the United States was subjected because of the continued prevalence of yellow fever in Habana, due to remediable causes. He suggested in his annual report for 1896 that an effort be made through diplomatic channels to induce the Spanish government to cleanse Habana. The suggestion was acted on by the Department of State, and Secretary Olney, in his letter to the Spanish minister at Washington, plainly set forth the insanitary condition of Habana and the anxiety it caused the United States. The Spanish authorities did little or nothing, however, and the sanitary regeneration of Habana was not accomplished until American occupation of the island several years later. The surgeon general did not confine his efforts to Habana alone, but maintained that all nations possessed certain international obligations in preventing the spread of epidemic disease from their seaports to the ports of foreign countries, and this idea of international co-operation in the sanitation of seaport cities he has never relinquished.

In an article published in the *Forum*, February, 1899, Surgeon-General Wyman thus expresses his views on international co-operation for the prevention of epidemic disease:

> There is little doubt that with American predominance in the island of Cuba the dreaded scourge of yellow fever will be suppressed and will in course of time almost, if not entirely, disappear. But a still further advance should be made. That great pestilential center Havana, even if purified and freed from yellow fever infection, will still be subject to reinfection from other ports in Central and South America, which are in almost as bad a condition. It is therefore worth serious consideration whether anything less than the total elimination of yellow fever from the American continents should be attempted, and it should be remembered that this disease is practically limited to the western hemisphere. . . .
>
> It is not pure optimism to suppose that an international sentiment may be awakened which will cause yellow fever in a given port, and the faulty sanitation which it implies, to be an opprobrium on the government in possession of the offending port. Every nation should be held responsible for conditions within its borders or dependencies tending to propagate epidemic diseases and to threaten other nations with which it expects to maintain a friendly commerce. As soon as the cities of our own dependencies are freed from fever by sanitation, it would be appropriate for this government to invite in convention representatives of each of the other American republics, the convention to be composed of public sanitarians, civil engineers and financiers, whose duty it should be to prepare a treaty providing for the examination of the chief yellow fever ports by a commission representing the republics concerned. Each country should obligate itself to put into effect the measures recommended by this commission, or measures of its own which would meet with the commission's approval.

In accordance with his views, Surgeon-General Wyman, in 1901, submitted to the International Conference of American States, held in Mexico, a provisional plan for international sanitation of cities.

This plan had for its object the elimination of yellow fever from seaport cities or towns which are or have been endemic habitats of yellow fever or which are liable to become foci by reason of geographical situation, commercial relations or bad sanitary conditions. The remedial measures suggested involved the subjects of sanitary improvement of harbors, sewerage, soil drainage, paving and elimination of infection from buildings.

The plan also recommended the formation of an international sanitary commission, to consist of five members, no two of whom should be residents or citizens of the same republic. They were to be appointed by the Bureau of American Republics and serve one year, when they might be reappointed or new members selected to succeed them.

The conference foresaw that by uniform application of modern sanitary methods to the seaport cities of this continent, as suggested in the surgeon general's plan, quarantine restrictions could be reduced to a minimum or totally abolished.

The resolutions, as finally adopted by the Conference of the American States, while they did not embody the surgeon general's plan in its entirety, were largely based thereon, and went far enough toward the ideal set forth to greatly encourage sanitary improvement in seaports which are a menace to the health of other countries.

The conference provided for the assembling of a convention of representatives from the health authorities of the various republics, as well as for the creation of an International Sanitary Bureau, with permanent headquarters at Washington, to encourage and carry out the measures of the general convention.

The result of the First International Sanitary Convention, which was held in Washington in December, 1902, was to secure co-operation between the various republics of the Western Hemisphere in the work of cleansing seaports and concerted effort toward the eradication of epidemic diseases. The convention recognized the interest and initiative displayed by Surgeon-General Wyman by electing him president, which carried with it the chairmanship of the International Sanitary Bureau which was organized at the same meeting.

This bureau promises to become a potent factor in the maritime sanitation of the future, and Congress, at its last session, appropriated a sum of money to cover the United States' quota of the fund for its maintenance.

As indicated in the foregoing historic sketch, the Marine-Hospital Service had for years exercised the powers, performed the duties, and carried successfully the responsibilities of a public-health service. It had suppressed epidemics, rigidly carried out the physical requirements of the inspection of immigrants, maintained an efficient system of national quarantine at all points of danger, enforced quarantine regulations in domestic insular and foreign ports published weekly sanitary reports and statistics from all parts of the world and conducted scientific investigations of epidemic diseases. In 1902 Congress determined to make the service in name what it had been in reality for years—the Public Health Service of the United States—and accordingly enacted (into law) a bill To increase the efficiency and change the name of the United States Marine-Hospital Service.

This act of 1902 was the first legislation directed toward securing harmonious co-operation between the national and state health authorities. The necessity of such co-operation had long been recognized and desired but was difficult of achievement by reason of our republican form of government. It had been difficult for the National Government to extend its operations within the borders of a state without appearing to infringe on the prerogatives of that state and it had been equally difficult for the states individually or collectively to seek aid from the Federal Government without appearing to surrender authority reserved to them by the National Constitution. During the century of development in which the Marine-Hospital Service became in reality the Public Health Service of the United States the state health organizations had also developed and improved and a sentiment of respect one for the other had been established replacing the old feeling of distrust and opposition.

The law of 1902 not only confirmed the Marine-Hospital Service as the National Public Health Service but also provided a plan for the utilization of both national and state health authorities in effective co-operation.

Section 1 provides that in future the service shall be known as the Public Health and Marine Hospital Service of the United States. Section 3 provides that medical officers in charge of the bureau divisions of marine hospitals and relief, domestic quarantine foreign and insular quarantine personnel and accounts sanitary reports and statistics and scientific research shall be while thus serving assistant surgeons general.

Section 4 authorizes the President to utilize the Public Health and Marine Hospital Service in times of threatened or actual war to such extent and in such manner as shall in his judgment promote the public interest without, however in any wise impairing the efficiency of the service for the purposes for which the same was created and is maintained.

Section 5 provides that "There shall be an advisory board for the Hygienic Laboratory provided by the act of Congress approved March 3, 1901 for consultation with the Surgeon General of the Public Health and Marine Hospital Service relative to the investigations to be inaugurated and the methods of conducting the same, in said laboratory. Said board shall consist of three competent experts, to be detailed from the Army the Navy and the Bureau of Animal Industry by the Surgeon General of the Army, the Surgeon General of the Navy and the Secretary of Agriculture respectively which experts with the director of said laboratory, shall be ex officio members of the board and serve without additional compensation. Five other members of said board shall be appointed by the Surgeon General of the Public Health and Marine-Hospital Service with the approval of the Secretary of the Treasury who shall be skilled in laboratory work in its relation to the public health, and not in the regular employment of the government.

Section 7 provides that "When, in the opinion of the Surgeon General of the Public Health and Marine-Hospital Service of the United States, the interests of the public health would be promoted by a conference of said service with state or territorial boards of health, quarantine authorities, or state health officers the District of Columbia included he may invite as many of said health and quarantine authorities as he deems necessary or proper to send delegates not more than one from each state or territory and District of Columbia to said conference *Provided*, That an annual conference of the health authorities of all the states and territories and the District of Columbia shall be called, each of said states, territories and the District of Columbia, to be entitled to one delegate, *And provided further*, That it shall be the duty of the said Surgeon General to call a conference on the application of not less than five state or territorial boards of health, quarantine authorities, or state health officers, each of said states and territories joining in such request to be represented by one delegate."

This act authorized the surgeon general to prepare and distribute suitable and necessary forms for the collection and compilation of mortality, morbidity and vital statistics. It also authorized the President to prescribe rules for the conduct of the service, and regulations respecting its internal administration, discipline, and uniform officers and employes.

The conferences called for by this act are very valuable in preventing the spread of epidemic diseases by insuring co-operation of state authorities with the Public Health and Marine-Hospital Service. Matters of sanitary interest, ventilation, housing, disposal of garbage etc, and matters relating to prevention of epidemic diseases are considered by special committees appointed by the surgeon general for that purpose.

The state health authorities are thus brought into close relationship with the Public Health and Marine-Hospital Service. The municipal health officers, through their dealings with the state boards of health, form a part of the system. The result is an interchange of views and mutual understanding between all health authorities, and the closer relations thus established will be of great benefit in the public-health work of the future.

An act to regulate the sale of viruses serums, toxins, and analogous products, and interstate traffic in such products, approved July 1 1902, imposed additional public-health duties on the service. The regulations formulated and promulgated by authority of this act provide for the inspection of all establishments engaged in the manufacture of serums, vaccines, etc, by officers of the Public Health and Marine-Hospital Service. The inspectors are required to visit, unannounced, the various establishments, and make a report on the methods employed and conditions existing in these concerns. Licenses are granted or refused, according to the recommendations of the inspectors.

The administration of Surgeon-General Wyman, aside from the great expansion of the public-health work of the service, has been characterized by marked improvement in methods of bureau administration and station inspection. This result has been effected by revised regulations, by reorganization of the bureau, and by more systematic inspections and reports of all classes of stations. These inspections extend to the fifty vessels employed in quarantine work—steamers barges and launches.

(*To be continued*)

TRAVEL NOTES

V

ITALY AND THE GREAT ANTIMALARIAL CAMPAIGN

LEWELLYS F BARKER MD

CHICAGO

BERLIN, June 25 1904

In Italy and Sicily as in Spain, the medical traveler is prone to pay more attention to, and profit more from the history and art of the land than its medicine. And this with right the key to the history of Europe is to be sought in Rome and who would know Rome must study Sicily. And yet the physician traveling in Italy, who gave himself over entirely to the satisfaction of his historical and esthetic inclinations, would miss much, for Italy has recently been making great strides forward commercially, socially and scientifically Especially is this true of northern Italy, which presents a marked contrast to the southern regions where poverty depresses, begging still annoys and dishonesty yet exasperates the American traveler That the country is everywhere and in almost all particulars making a swing upward is obvious The national credit is much improved, as the traveler finds almost to his sorrow when he compares the number of lire he now receives in exchange for a pound with the larger amount dealt out to him a few years ago

The aquarium at Naples is visited by everyone who goes to the city, and the traveling physician, above all should not miss seeing it. This mother of marine laboratories, superbly situated in the middle of the Villa Nazionale, is still presided over by its generous founder Dr Dohrn, and the work on the morphology and physiology of the animals of the Mediterranean is being more actively prosecuted than ever Tables are supported by Prussia Saxony, Bavaria, Württemberg Baden Hessen, Hamburg Italy, Austria Hungary, Russia, Holland Belgium, Switzerland the Universities of Oxford and Cambridge the British Association for the Advancement of Science the Smithsonian Institution and the Carnegie Institution in Washington Many American biologists have profited by the magnificent facilities afforded there, and the Zoological Station at Naples has undoubtedly had a great influence on the development of our excellent seaside laboratories in America The well known conservator of the institution Lobianco makes exquisite preparations which are sent to zoologic museums in all parts of the world The station has its own steam yacht a steam launch, and many sailing boats and rowboats for the collection of material Many of the fishermen have long been associated with scientific collectors As we went through the laboratory Dr Dohrn pointed out to us one elderly Neapolitan who formerly collected for Johannes Müller

The example set by Dr Dohrn as an organizer and leader of a laboratory must interest everyone engaged in executive work It is a part of his policy to permit the greatest possible freedom of investigation and publication to those who study there He is ever ready to give advice and to assist where he can and in some instances perhaps to lead but he never attempts to drive, nor does he make an effort to direct the work too much along the lines of his own interests in research Two men may publish from the laboratory results quite contradictory to one another if they wish to do so, the director exercises no censorship which would prevent this, for time he thinks, will best decide the merits in any given case. And it might be better, in the long run, if this policy were always followed by the heads of research institutions A new physiologic department of the Zoologic station is being built, it is hinted that great attention is to be paid in the near future to physiologic chemical researches in this department

At the head of the Royal University of Naples this year is the distinguished psychiatrist, Leonardo Bianchi, well known to American neurologists on account of his views regarding the functions of the frontal lobes The university is visited by more than 5 000 students yearly, has all four faculties of which the medical faculty is by far the largest Of the medical teachers besides Professor Bianchi may be mentioned Pianese, Rho, Pasquale and Biondi as those whose names are best known to us in America

I must confess to having been much surprised at the number and size of the universities in Sicily The Royal University in Palermo has 1,400 students, the University of Catania 1,060 and the University of Messina 645 Among the professors and instructors are a number of men well known to readers of anatomic and pathologic literature, e g, Sanfelice (hygiene) and Fusari (histology) in Messina, Petrone (pathologic anatomy), Ughetti (general pathology), d'Abundo (psychiatry) and Staderini (anatomy) in Catania, and Marcacci (physiology), Trambusti (general pathology), Acquisto (histology) and Mirto (psychiatry) in Palermo

One of the interesting sights to the medical man in Palermo is the remarkable osteologic collection presented by the catacombs of the Convento de' Cappuccini In the subterranean passages beneath the convent the mummified bodies of the wealthier inhabitants of Palermo were stored for decades until a few years ago, when the government put a stop to this method of disposal of the dead A curious custom was, in the later years, associated with the practice, the photograph of the living individual was placed in the catacombs beside the remains This juxtaposition tempts to comparison, indeed, I can see no other reason for placing the photographs there Sometimes the photograph impressed us most, sometimes, a gentleman with us thought he rather preferred the appearance of the skeleton! The only recent interment in the catacombs is that of the body of Signor Crispi, and for this special permission had to be obtained His widow, I was told, repairs at regular intervals to the subconventual regions to remourn her dead

In Rome one's medical interest naturally centers in those Italian investigators who have done so much to clear up the clinical history, pathology and epidemiology of malaria, Marchiafava Celli, Bignami and Bastianelli These men are all members of the Medico Chirurgical faculty of the Regia Università degli Studi, Marchiafava being professor of pathologic anatomy Celli professor of hygiene, Bignami professor of general pathology, while Bastianelli is in clinical work It must be admitted, I think, that the credit for the greatest Italian work on malaria belongs, not to a Roman, but to the Pavian, Camillo Golgi, but, in spite of this, the Romans have made and are still making contributions of high importance to the subject The advances due to the Italians have been so thoroughly presented to American readers by American investigators of the malarial diseases that it would be superfluous to refer to them here

One feature, perhaps, may be mentioned, namely, the foundation and activity of a special society for the study of malaria This society dates from 1898 and is due to the initiative of Fortunato, Franchetti and Celli The date of foundation was propitious Ross had just made his important observations on the relation of mosquitoes to malaria in India, Ficalbi had studied the species of mosquitoes and their habits in Italy, Golgi in Pavia, and Marchiafava in Rome, had perfected the clinical study of the blood in the various forms of human malaria and Grassi had observed the species of mosquitoes most prevalent in malarial districts and had regarded the *Anopheles* as the most suspicious variety In the following autumn Bastianelli, Bignami and Grassi brought the direct proof of the propagation of human malaria by the mosquito and confirmed Ross' work regarding the *Anopheles* The Society for the Study of Malaria undertook to draw important conclusions from this well confirmed theory of malarial transmission and to apply these in the best possible hygienic manner The work began in a modest way on a farm now famous, known as *la Cervelletta,* Celli in 1899 established there the first station for the study of malaria in the Roman *Campagna* Since then more than a dozen stations have been established under competent direction, in the various parts of Italy where malarial fevers prevail, and though the material resources of the society have been small the energy, activity and personal sacrifice of the scientists who have been engaged in the investigations have been great and a rich treasure of epidemiological and prophylactic facts has been accumulated *

On the epidemiologic side the society has made exhaustive studies of the geographical distribution of the various types of malarial fever, of the times of year when each type is most prevalent, of the relation of *recidives* to the outbreak of new epidemics, of the places and times, where the *Anopheles* are abundant and malaria is not epidemic, of the relations of rice growing to malaria and of a number of other questions

Still more important and extensive have been the researches on the prophylaxis of malaria. These included attempts to destroy mosquitoes and efforts at seroprophylaxis, but the most practical results in Italy have been obtained first by prophy lactic dosing with quinin and second by mechanical protection against mosquito bites. Of nearly 1,000 people treated daily in 1902 with quinin only 1.5 per cent were attacked, while from 14 to 85 per cent of the people untreated in the same districts developed malaria. More than 2,000 people were given a prophylactic dose of 5 grams once every week or ten days, of these some 10 per cent developed malaria while 48 to 80 per cent of those untreated developed the disease. The quotidian prophylactic dose is more protective therefore than the weekly single dose. No special harm seemed to follow the daily dosage. Further the prophylactic use of quinin even when unsuccessful in preventing an attack of malaria (though this is rare) does not hinder at all as some have believed but rather facilitates the therapeutic action of larger doses of the salt. The larger curative doses far from being less efficacious for individuals who have received prophylactic doses arrest more quickly the fevers which sometimes develop in spite of the prophylactic measures undertaken. The Italian experiences are strongly in favor, too of the use of hydrochlorate and bichlorhydrate of quinin as a preventive rather than the more highly vaunted but less effective mixtures of iron arsenic and quinin.

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*A report on the work from 1898 to 1903 was made by Celli at the Hygienic Congress in Brussels and published in the Arch Ital de Biol vol xxxiv 1903 p 3

Much has been done by the society in the way of educating physicians how to use quinin properly. Physicians are urged in dealing with malaria not to be satisfied with giving the small number of doses which cut the attack short in those who have acute manifestations of the disease but emphasis is laid on the following points:

1. During the months when malaria prevails and when one can not count on the security of mechanical protection from mosquito bites or other prophylactic methods the preventive treatment of healthy persons and of those in whom latent infection is possible should be resorted to. The daily or weekly distribution of quinin is not difficult in the form of sugar-coated tablets, the cost of the prophylactic treatment is not great (quinin is sold by the Italian government) two or three francs per head for the whole season of four months. The quantity of quinin necessary for each person in the course of the whole prophylaxis is less than that which is often necessary to use to completely cure a fever once contracted.

2. In those rare instances, where in spite of prophylaxis malarial fever develops it is necessary to administer at once large therapeutic doses to cut short the attack and to continue this stronger treatment *for from two to four weeks* before resuming again the smaller prophylactic doses.

3. For individuals in whom recurrent attacks are obstinately repeated in spite of preventive treatment an intense therapeutic treatment (gr. 0.50 to 1) should be begun and followed from four to six weeks; if necessary in such cases a reconstructive treatment with iron and arsenic is recommended in association with the quinin therapy.

Nothing is said in the epitome of the report of the society with regard to the simultaneous prevalence of malaria and typhoid fever. In view of our experiences in America the question might well be asked "Are not some of the *obstinate* malarial fevers described by the Italians really typhoid?" Typhoid fever is a disease much more poorly understood in Europe than in America. It is conceivable that a systematic study of 'resistant' malarias in Italy with the aid of the Gruber-Widal reaction might be of value.

Mechanical protection against mosquito bites has yielded marvelous results in the prevention of malarial infection wherever it has been tried. In 1901 on the initiative and with the aid or counsel of the Italian society 5,165 persons were mechanically protected against malarial fever. In badly malarial localities of 4,363 individuals carefully protected 1.9 per cent only were attacked with primary malarial fever while of 802 less well protected an average of 10.9 per cent became sick. In 1902 of 5,851 mechanically protected there were only 2.8 per cent of new infections and only 10.1 per cent of recidives. In this way a large number of poor families which for years had suffered from malarial fever were, as Celli puts it, reborn to a new life thanks to mechanical prophylaxis either alone or, where necessary, associated with the treatment of recidives. Unfortunately this mechanical prophylaxis is relatively expensive and is, therefore, applicable only to a limited class such as railroad employes and the like, it is beyond the means of the Italian peasant, for whom the quinin prophylaxis is alone available.

Italy, thanks largely to the efforts of members of the society, is the first country that has established special anti-malarial legislation. The Italian parliament has passed two laws. According to the first, it is possible to buy pure quinin cheap in every part of Italy, the sale being controlled by the government; according to the second, quinin must be furnished *gratuitously* and *abundantly* by physicians to workmen and to peasants at the expense of their employers. In case a workman contracts malaria while in service through culpable withholding of quinin a suit for damages is well grounded.

The state is setting a good example by giving its own employes on railroads and in custom houses properly protected dwellings. The revenues from the sale of quinin (it is estimated that it will amount to 30,000 kilograms yearly), though the alkaloid is furnished at a very low price will, it is believed, be considerable; they are to be devoted solely to the service of the national struggle against the secular enemy, malaria. When it is realized that 4,000,000 hectares of Italian soil are uncultivated solely on account of the dangers of malaria, and when it is recalled that 2,000,000 Italians are annually attacked by the disease, and that from 12,000 to 15,000 die each year therefrom, the social and economic importance of the anti-malarial campaign becomes obvious. It is in many ways, as Fortunato has emphasized and as Celli repeats in his report, the essential problem for Italy and plays a capital rôle in the urgent and menacing meridional question.

At the ancient hospital of Santo Spirito early one morning I found both Bignami and Bastinelli making morning rounds. The old hospital is most interesting historically, but scarcely suitable for modern work. Founded as long ago as 1198 by Innocent III, it has been added to and remodeled from time to time. It contains an enormous number of beds for medical and surgical patients and has connected with it a lunatic asylum and a foundling hospital. The physicians in charge lament the antiquity of the arrangements, but are buoyant in the hope that a new hospital, with all modern improvements, is soon to be provided.

Though the Roman hospitals are old, many of the scientific institutes are modern. Thus Bignami has just gotten settled in a new laboratory, which though not large, is well arranged and looks active. Now that the stress of the malarial work is over, Bignami is turning his attention more particularly to the pathology of the central nervous system, and I spent an interesting morning examining some of his newer preparations. Among other specimens he showed me sections of the horn of Ammon from hydrophobia material in which the bodies described and believed by Negri to be the parasite of rabies were exquisitely demonstrated. The bodies are relatively large, situated in the protoplasm of the nerve cell body, and are sharply differentiable by staining methods; it is curious that they went so long overlooked. They occur in the nerve cells in different parts of the central system, e. g., in the anterior horn cells of the spinal cord, in the large cells of the formatio reticularis and in the Purkinje cells of the cerebellum but they are most abundant in the cells of Ammon's horn. Certainly they look like parasites; they are quite different in appearance from the ordinary cell inclusions and cell degenerations with which pathologic histologists are familiar. The fact that the hydrophobia virus under certain circumstances passes through the Berkefeld filter does not necessarily exclude the Negri bodies from being the causal parasites of hydrophobia, for while the bodies described by Negri are much too large to pass through the filter, it is easily conceivable, as Celli and de Blasi suggest, that in the protozoan cycle forms much smaller than the larger bodies of Negri may occur.

(*To be continued.*)

Apparent Death for Six Hours After Lightning Stroke.—The *Lancet* of April 9 quotes Sestier to the effect that 7 cases are known in which persons struck by lightning were revived after six hours of apparent death.

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URIC ACID THEORIES

An interesting example of the persistence of a theory that for all practical purposes has seen its rise and fall, *is furnished by the case of uric acid.* No *matter* how abundantly the results of reliable research are published, nor how carefully the leading clinicians controvert the mistaken ideas of a previous generation a large proportion of the unprogressive will cling to the most worn-out theory or system for no better reason than that the idea once secured a firm place in their mental armamentarium and that it would require an effort to dislodge it. A student is told that uric acid accumulates in the blood and leads to all sorts of diseases, and that uric acid in the urine means an excess of uric acid in the blood; if he is of a certain type for the rest of his life a brick dust deposit in a urinal calls for sodium salicylate or some other favorite remedy, and never for a moment will he imagine any room for question of the absolutism of the uric-acid doctrine. Furthermore, as Billings has said the theory which was accepted at one period by the medical profession becomes at a later period the theory and property of the laity. And thus many manufacturers of patent or proprietary remedies wax rich selling a "solvent" which does not dissolve a substance that does not accumulate in the "system" and does not cause a host of ills.

The widespread acceptance in this country of the supreme importance of uric acid as a cause of most of the diseases that flesh is heir to, is probably due more to the writings of Haig than to any other one cause. Using methods that are known to be unreliable he secured data that *can not be corroborated* and with these as a basis followed out a marvelous train of logic to the ultimate conclusion that practically all disease is due to uric acid, and that a vegetable *diet* is a guarantee against the sufferings of mortal man. No advance in physiologic chemistry and pathology, no amount of refutation *of his claims, seems to have interested or* swerved him in the least, for in his newly published "Epitome" on uric acid[1] he ignores everything but his own cherished beliefs and calmly follows them as they lead to the conclusion that appendicitis consumption and uterine fibroids are all expressions of the pernicious effects of uric acid, and in turn to meat eating. We have been reading this book, and psychologically it is one of the most interesting things of the kind recently published.

The fundamental ideas, as Haig gives them, are that uric acid is deposited in the tissues of the body when the solvent power of the blood is reduced, and taken up in the circulation when the solvent power of the blood is increased, whether *by diet or drugs.* The result in the first case is local inflammation of the fibrous tissues, leading to such conditions as appendicitis, uter*ine fibroids, catarrh, pneumonia, phthisis, cirrhosis,* and even to liver abscess. Bad as this is the results that follow the dissolving of uric acid and its circulation in the blood are ever so much worse for Haig says uric acid forms a colloid which blocks up all the capillaries, and naturally as a result the various organs do not get *enough nourishment* and the heart has a terrible time trying to push the slimy uric acid through the capillaries. Nothing could be simpler. And all this being true (?), it is easy to see how we have produced headache epilepsy, insanity, fatigue paralysis dilated stomach diabetes, Bright's disease boils, aneurism, leukemia, pernicious anemia, exophthalmic goiter and piles. This is no joke—these are only a few from the list that fills over three solid pages of the epitome.

But we wonder how the oculists will look on the statement that migraine is due to the presence of uric acid in the blood. Dr. Haig also has cured hundreds of cases, but without a single lens. And what is the poor lay brother to do about it? Shall he live on excelsior breakfast food and Battle Creek products or ought he to visit a refractionist and get a new pair of glasses? Possibly the homeopathist will offer the helpful suggestion that right-sided migraine comes from eyestrain and left-sided from uric acid or *vice versa.* At any rate, the speed and endurance of the hobby horse is demonstrated.

We pay this much attention to Haig's book largely because at one time his name assumed prominence as authority on uric acid as a cause of disease owing to the fact that at that time our methods of research had not developed sufficiently to afford any accurate knowledge of the facts in the case. Many physicians have Haig's books on their shelves and have been much influenced by them in their practice. *It will be readily granted* that the advice as to diet hygiene and therapy recommended on the basis of this theory, has often been productive of excellent results, *and probably* seldom if ever harmful, but real progress can not be made on a basis of error, and it is necessary to appreciate the fallacy of much of the talk *concerning uric acid.*

We have not space to go into the reasons involved in the objections to this theory but our readers can secure first-hand information from available sources in the English language.[2] Billings has tersely summed up the results of our studies in the following words: "Some of the fallacies of uric acid are therefore: 1. That uric acid is toxic; 2, that it is a causative factor of any disease except gout 3 that uricacidemia meaning acid blood does exist 4, that the chemical reaction of the blood may be altered by the medicinal quantities of the alkalies or by diet 5, that uratic deposits may be dissolved out by the administration of alkalies, 6 that lithia is a uric-acid solvent of unusual potency 7 that uric acid is an abnormal constituent of the urine 8 that an excess of uric acid in the urine at any one time or a deficiency at another time indicates an abnormal condition in reference to uric acid 9 that rheumatism is due to uric acid."

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[1] Uric Acid: An epitome of the subject, by Alexander Haig.

[2] J. H. Salisbury: The Chicago Clinic, April and May, 1900. A. E. Taylor: Amer. Jour. Med. Sci., August, 1899. Woods Hutchinson: Lancet, Jan. 31, 1903. A. C. Croftan: Philadelphia Med. Jour., 1902, April 5 et seq. Walter Baumgarten: The Journal A. M. A., Feb. 13, 1904, p. 4[illegible]1. Frank Billings: Chicago Medical Recorder, 1901.

SPECIALISM AND SCIENTIFIC SUCCESS

A very general impression prevails at the present time that success in scientific investigation can only be hoped for from those who are highly specialized students of their branch. All departments of science are popularly considered at least to have developed to such an extreme of refinement that only the specialist can hope to make the distinct advances which add to our present knowledge. Every now and then there comes a distinct contradiction of this idea that is worth while noting. After all, it must not be forgotten that after the cause of infectious disease had been for so long a subject of study on the part of physicians and when presumably only from a physician could the solution of the mystery of disease etiology be looked for, Pasteur, a chemist and biologist, stepped in and the riddle was solved.

At the present moment some of the most interesting work that is being done in progressive medicine is that of Professor Arrhenius the distinguished scientist to whom we owe the foundation of the science of physical chemistry. The Swedish professor is now engaged in investigating the physical chemistry of serums with the idea of making our knowledge of these complex substances more definite so as to enable us to appreciate the real reasons for their action and the sources of their energy. It seems not unlikely that the ionic theory of the constitution of matter and the electro-chemical factors which have been found so important in solutions may serve to broaden the field of application of serums and even secure the discovery of further curative agents of this kind.

Arrhenius is perhaps the most interesting type of the successful non-specialist scientist now alive. He received the Nobel prize for his successful investigations in physical chemistry before he was 45 yet his scientific work ranges, as a writer in the *Popular Science Monthly* said not long since, "from salt solutions to comets and their perihelion periods to the typhoid bacillus." His record lends little support to the belief that a scientific man must be a narrow specialist if he is to attain eminence. This belief rests on a misapprehension. It is true that scientific men are accumulating facts at a tremendous rate and that this apparently makes it more and more difficult for any one man to be master of anything more than a small branch of a single science. Along with this accumulation of isolated facts, however, there goes the development of simplifying generalizations or laws which enable men to grasp and remember an enormous number of facts. The smaller mind is apt to be so weighed down by mere accumulation of facts as not to be able to see the great laws which they demonstrate. It is a case of not being able to see the trees because of the leaves.

There would even seem to be in such cases something more than a hint that the modern methods of education which insist to such a degree on cumulative information may prove in many ways to be a mistake. Scholars with possibilities of original work in them become so loaded down with the supposed results of others' observations and with the uncertainties of elaborate technic that they are never brought really face to face with the important problems to be solved. Direct observation is the only method of broadening the field of knowledge that has ever given satisfactory results. Elaborate theories have been popular, but they usually delay the progress of science. For observation what is needed is the faculty which John Ruskin once declared to be the rarest quality of the human mind that namely of seeing things as they are and telling them simply as they appear. There is always room for the simple observer in medical science, and never more so than at the present moment.

POPULAR MUSEUMS OF HYGIENE AND DISEASE

In all large cities we find various kinds of museums and collections for the instruction and amusement of the people, but there is one form of museum or permanent exhibition still almost without representation on the long list of these useful institutions, namely, popular museums of hygiene and knowledge of disease. The usefulness of museums of this kind in promotion of knowledge in regard to subjects of such importance as health and disease is so self-evident that no special argumentation is required. Medical men especially appreciate the unsurpassed value of the eye for the conveyance in teaching of strong, living and hence lasting impression. This is the era of publicity in medicine, secrecy is only the stamp of charlatanism successful prevention of many diseases, e g, tuberculosis must ever depend in large measure on the knowledge among the masses in regard to such diseases.

There are few diseases that lend themselves so well for illustration by museum methods as tuberculosis the one disease above all others to be stamped down. The temporary exhibit in Baltimore last winter and the permanent tuberculosis museum in Berlin show well enough how much may be accomplished in a short time and with relatively small expense. The extent distribution and death rate of the disease may be shown by maps, tables and curves. The bacillus may be demonstrated in drawings cultures and microscopic preparations, and the effects of tuberculosis on the body of man and of animals by means of anatomic preparations by the side of which specimens of normal organs would serve for purposes of comparison Preventive means, such as apparatus for ventilation and disinfection sputum cups, and the like, would form interesting exhibits when arranged along developmental lines The construction of tents, of sanatoria, of healthy homes, healthy factories, etc are other fields for illustration Portraits and busts of the founders of our knowledge of tuberculosis and a collection of the classical literature of tuberculosis would most fittingly be found in this museum all arranged in the attractive manner that curators so well understand Fancy the interest the reverence with which the father and mother would study such a collection when it became known that some one of their children were showing signs of early tuberculosis! We unhesitatingly recommend to our associations against tuberculosis this plan, which no longer is a new idea, of permanent, popular museums of tuberculosis No doubt much good would come from co-operation in various ways

Practically all communicable diseases are susceptible of similar treatment In their last report to the House of Delegates the Committee on Venereal Diseases state that the next step in their prevention is publicity and education Wisely managed, much valuable information in regard to these infections could be conveyed by museum methods

There is consequently a large field for popular museums of the kind indicated which becomes still more extensive if such museums attempt to cover also general hygiene a subject that in this country as yet is almost wholly without museum representation even for more purely technical and educational purposes Taking it all in all, we must conclude that the time has come when endowments and appropriations are needed for museums of hygiene and disease just as well as for archeology, anthropology, zoology, art, and the like

THE CAUSES OF THE CACHEXIA ACCOMPANYING MALIGNANT TUMORS

The underlying causes of the anemia and malnutrition which accompany the development of malignant new growths and which we speak of as cachexia have been, to some extent, obscure It is easy to understand why a patient with a large extensively ulcerated growth infected as this is bound to be, should suffer from anemia and malnutrition, the absorption of septic material sufficing to explain this It is a well-recognized fact that small non-ulcerated neoplasms can also give rise to well-marked cachexia, even when there are no signs of sepsis The cachexia in these cases has been explained as due to the absorption of toxic substances secreted by the tumor cells, but so far no one has attempted to explain the nature of the toxins Recently, Kullmann[1] has made some interesting experiments which seem to clear the matter up He finds that carcinoma cells contain a substance which has a strong solvent effect on blood corpuscles When added to blood outside of the body, or when introduced into the bodies of animals, this substance produces a prompt and active dissolution of the red blood corpuscles The substance could be distinguished from the hemolytic substance normally found in all tissues, and was much more powerful than this Kullmann cites other authors to show that a similar substance has lately been isolated from sarcoma cells The theory seems very plausible

THE ACTION OF SALICYLATES ON THE URINARY TRACT

The salicylates have been so widely employed and have proved of such distinct utility in the treatment of a large number of disorders that the fact should not be ignored that they may give rise to irritation of the urinary tract, particularly the kidneys Some observers have even reported the occurrence of nephritis and desquamative catarrh of the urinary passages from this cause In order to convince themselves of the accuracy or otherwise o statements of this character, Dr Carl Klieneberger and Dr Richard Oxenius[1] made a careful study of the urine from a large number of practically normal persons and from individuals suffering from rheumatic disorders particularly polyarthritis, to whom later salicylates were administered As a result of their observations they found that the administration of even small doses of salicylates gave rise to the urinary but not to other clinical phenomena of nephritis and also of desquamative catarrh of the entire urinary tract, but that these dis p peared with the continued administration of the medicament Habituation to the drug did not appear to develop as similar symptoms reappeared when the administration was resumed after an interval of a few days omission It appeared that a toxic or febrile nephritis is present in the majority of cases of febrile rheumatic disease and that this subsides under the use of salicylates On the other hand the salicylates themselves give rise to a characteristic form of nephritis, from which recovery takes place as a result of their continued administration

THE ETIOLOGY OF SCURVY

Although the symptomatology of scurvy differs somewhat as the disease occurs in adults and in children prevention and cure can be effected in both apparently by the observance of certain dietetic regulations While this fact has long been appreciated, the factors on which the disorder actually depends have never been clearly made out The common belief is that the deterioration of the tissues that is the most conspicuous feature of the affection is due to the absence from the food of certain chemical principles contained especially in fresh vegetables but the identity of these has not been established It has also been suggested that the disease is of infectious origin, but here again the hypothetical causative micro-organism has not yet been isolated In support of this latter view, Mr Myer Coplans[2] presents certain interesting evidence, obtained in the Transvaal toward the close of the Boer war and subsequently In general, this is to the effect that the disease occurred not in those deprived of any particular article of food, but among those provided with the same diet whose surroundings, however were of a character conducive to infection Further the best therapeutic results were obtained in those cases in which attention was directed to disinfection of the mouth in addition to constitutional treatment The disease began as an inflammation of the mouth the general symptoms following at varying intervals Improvement or the reverse took place in direct relation to the improvement or aggravation in the condition of the gums The treatment consisted of rest in the open air and isolation from previous surroundings together with rigorous and frequent antisepsis of the mouth

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[1] Zeitschrift für klin Med vol liii 1904

[1] Deutsches Archiv f klin Medicin vol lxxx Nos 4 p 225

[2] Lancet June 18 1904 p 1714

HEALED MILIARY TUBERCULOSIS OF THE LUNGS

The possibility of healing tuberculous lesions is well established Instances of healed or healing local pulmonary glandular osseous and synovial tuberculosis are very common The frequency with which healed tuberculous areas are encountered at postmortem examination is generally known But even more extensive tuberculous outbreaks such as tuberculous peritonitis pleuritis and even leptomeningitis may heal completely Instances of healed miliary tuberculosis however must be very rare Spengler[1] reports recently a case of healed miliary tuberculosis of the lungs in a man who first came under observation in 1889 when both apices showed evidences of involvement In the following year there were signs of extensive invasion of the rest of the lungs He was treated with tuberculin on several occasions until in 1894 when bacilli disappeared from the sputum the temperature remained normal and the physical signs indicated retrogression of the pulmonary lesions A laryngeal tuberculous ulcer which had appeared in 1893 also healed Death occurred in December 1894 after an illness of four weeks, marked by cerebral symptoms Unfortunately the autopsy was limited to the lungs which showed apical adhesions, and numerous prominent hard, small nodules of pure scar tissue scattered throughout all parts of their substance Microscopically these nodules showed no bacilli no giant cells no epithelioid cells here and there were a few small necrotic foci, some fibroblasts and young vessels but otherwise only scar tissue The case is cited by Spengler as an instance of the beneficial action of tuberculin which should be given repeatedly at intervals of not longer than six months We believe that the case may be accepted as one of healed miliary tuberculosis of the lungs but that the actual influence of tuberculin in a single case like this can not be determined especially in view of the fact that the cerebral lesion in the case remains unknown, for the latter might have been of tuberculous nature

THE VALUE OF THE LEUCOCYTE COUNT IN APPENDICITIS

The significance of the changes in the white corpuscles which occur in appendicitis has of recent years been the source of a great deal of discussion, and a perusal of the proceedings of the various medical societies shows that on the one hand there are those who consider the leucocyte count of little or no value, and on the other those who perhaps pin too much faith on it The differences of opinion are so great that it seems hard to explain them Several factors are doubtless at work to cause the disagreement Among the more important of these must be mentioned the basing of opinion on an insufficient number of cases, too infrequent blood examinations and the tendency to regard the blood examination as a specific diagnostic point rather than to consider it as a link in the diagnostic chain The ground has recently been worked over by a number of observers, among whom must be mentioned Cazin and Gros,[1] Rehn and French[3] The attitude which has generally been taken with regard to the significance of a leucocytosis in appendicitis is that the degree of leucocytosis is an indication of the presence or absence of pus or of peritoneal involvement Attempts have been made by various authors to fix a boundary line so that we could say that if the leucocytes were below this arbitrary limit pus was not present if above it, pus was present The studies above mentioned show that no such arbitrary division can be made It is true that cases with a very high leucocytosis, over thirty-five thousand white cells per cubic millimeter, for example, nearly always showed pus but even this was not invariably the case Cazin and Gros in their work lay a good deal of stress on the importance of making frequent counts in a given case and observing whether the number of leucocytes tends to increase or decrease According to these observers and French corroborates them in the main, the occurrence of a gradually increasing leucocyte count is of much greater significance as regards pus formation than the mere number of the leucocytes In his series of cases French noted, on the other hand, that where the cases were tending to recovery the number of leucocytes gradually fell As regards the leucocytes in cases with general peritonitis, the remarks referring to the question of pus formation are applicable French found that 50 per cent of the cases with general peritonitis showed no leucocytosis Rehn also reports that two out of six cases with diffuse peritonitis showed a lack of leucocytosis Here again, experience shows the insufficience of single or scattered counts and the value of daily observations either a very sudden rise or less frequently a very sudden drop indicating peritoneal involvement The view which French takes of the matter after studying the literature and his own cases, is that a good deal of work remains to be done to place the significance of the leucocyte count in appendicitis on a firm basis He suggests that the differential count of the leucocytes in these cases should be worked up much more fully, as the few instances in which this has been done indicate that it may be of value The general impression gained from the papers cited is that the changes in the leucocytes may certainly be of both diagnostic and prognostic import, but that these changes must be considered in connection with the clinical aspects of the case, and that the best results will be obtained by daily and systematic examinations

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[1] Zeitschr f Hyg u Infektionskr 1904 xlvii 133

[1] Semaine Médicale May 6 1903

[2] Münchener med Woch No 50 1903

The Practitioner June 1904

Medical News.

CALIFORNIA

Hospitals—The Fresno County Hospital has been recently completed at a cost of $100,000, and has accommodation for 150 patients——Mr and Mrs James H Hough have agreed to erect a receiving hospital for Stockton at a cost of $10 000 provided the city binds itself to maintain the institution

Personal.—Dr Ray L Wilbur assistant professor of physiology in Stanford University has resigned and will take up private practice——Dr Edward P Rockhill U S Army Presidio of San Francisco who was operated on for appendicitis, has resumed his duties at the General Hospital——Dr C Van Zwalenburg Riverside, has resigned as physician of Riverside County

Accidents—Dr Winifred S Foster Oakland was severely injured in a collision between her buggy and a street car near Lorin——Dr James D Hill San Francisco was thrown to the ground from his automobile July 27, and narrowly escaped serious injury——Dr William J Hosford Alameda sustained severe injuries to his leg in a bicycle accident a few days ago——Dr James M Shannon Oakland was thrown from his buggy in a collision, his nose broken and his knees badly cut——Dr Guido E Caglieri San Francisco was recently thrown from his horse fracturing his femur

To and From Europe—Dr William I Hibbard Pasadena sailed for Germany July 23——Dr and Mrs W J Chambers Corona, are spending two months in Europe——Dr Vida Redington, Oakland is making a leisurely tour of the Eastern States and Europe——Dr and Mrs Hirschfelder San Francisco have returned from Europe——Dr Harry M Sherman San Francisco, has returned from abroad——Dr and Mrs Arthur H Mays, Sausalito, have gone to Europe——Dr William A Martin, San Francisco has returned after a stay of a year and a half in Europe——Dr Ray L Wilbur Stanford University has returned from Europe

Appointments—Dr Charles M Linsman Bieber has been appointed assistant physician of Lassen County vice Dr Arthur L Bradshaw resigned——Dr Henry J B Wright has been appointed to fill the unexpired term of Dr William D McDougall on the San Jose Board of Health——Dr Lewis A Perce Long Beach has been elected president of the State Board of Medical Examiners——Dr Stephen H Runtz has been elected president of the newly organized Placerville Board of Health——Dr Fred C Gerlach has been made secretary of the San Jose Board of Health and health officer——Dr Dennis D Crowley Oakland has been appointed district surgeon of the Santa Fe system

DISTRICT OF COLUMBIA

School Inspection—The commissioners have approved the recommendations of Dr William C Woodward health officer and the Board of Education, that amendments be made to the regulations governing the medical inspection of public schools in the District consisting of changes in the wording of the various sections the addition of more specific rules relating to diseases and various other details calculated to make more effective the operation of the regulations

ILLINOIS

Personal—Dr William Jayne, Springfield has been reappointed a member of the State Board of Public Charities

Smallpox in Zion—It is said that there are 16 cases of smallpox in Zion City and neighboring towns are taking precautions to prevent the spread of the disease

Expensive Spitting in Seneca—A new ordinance was passed by the Seneca City Council imposing a fine of not less than three nor more than twenty five dollars for any person caught spitting on the sidewalks

Physician Insane—On the application of his wife Dr Howard R Weber, Highland was taken before a court at Edwardsville, July 25 declared insane and committed to the Illinois Southern Hospital for the Insane Anna

McAllister Hospital Completed—The new McAllister Hospital, erected at Waukegan, by the generosity of the late Mrs Jane McAllister, at a cost of $21,000 was opened for public inspection August 5 The building contains 45 rooms

Hospital Addition Open.—The new $140 000 ward addition to the Illinois Western Hospital for the Insane Watertown was informally dedicated August 2 and 300 new patients from Lee Ogle and Stephenson Counties were installed The new structure increases the capacity of the institution to 1,200 patients

Illinois Not Responsible—In the final report of the investigations made regarding the complaint of St Louis, that its water supply was contaminated from Illinois sources, the State Board of Health draws the following conclusions

> 1 The water supply of St Louis is taken almost entirely from the Missouri river
>
> 2 The water of the Illinois river is so much purer than that of the Missouri that if the city of St Louis took large quantities from the Illinois river the water supply would be better than it is coming from the Missouri
>
> 3 The increased flow of Lake Michigan water in addition to the sewage coming through the drainage canal has improved the quality of the water of the Des Plaines and Illinois rivers
>
> 4 The contamination of the Illinois river through the farm and village and city drainage and sewage from commercial enterprises is probably greater than from the drainage canal under present conditions

Chicago

Fined for Selling Cocain—Dr Adolph Brendecke was fined $100 by Justice Caverly for selling cocain to minors

• **The Week's Deaths.**—Acute intestinal diseases again heads the list of deaths, with 111, violence caused 62 deaths, consumption 58 heart diseases, 41, Bright's disease 29, cancer, 22 and pneumonia 20 The total deaths were 496, equivalent to an annual death rate of 13 41 per 1 000

Smallpox—During last week eight cases of smallpox were sent to the Isolation Hospital Two of these were colored men and one was a woman 60 years old who claimed to have been vaccinated in childhood and had an imperfect scar as proof She had, however never been revaccinated and none of the others had ever been vaccinated at all

Low Mortality Among Children—The department of health makes the following comments on the lessened mortality among young children this season

> One of the most remarkable features of the present most remarkable season as to the public health is the unprecedentedly low mortality from the contagious diseases of childhood and as a consequence an unprecedentedly low general death rate for the city Only one death each from diphtheria and measles three from scarlet fever and four from whooping cough were reported during the week
>
> Since the first of the year there have been 212 deaths from diphtheria during the corresponding period of 1903 there were 328 diphtheria deaths—decrease this year more than one-third (35 3 per cent)
>
> Deaths from scarlet fever show a decrease of 52 2 per cent—241 last year 115 this year
>
> In the whooping cough mortality the decrease is 80 per cent—241 deaths in 1903, 48 in 1904
>
> Against the 23 deaths from measles since Jan 1 1904 there were 258 in the corresponding period of last year—a decrease of 91 per cent
>
> The gross mortality of the four principal contagious diseases of childhood thus far in 1904 is not much more than one-third (37 3 per cent) that of the corresponding period of 1903

INDIANA

Smallpox—Goshen has six cases of a severe type of smallpox with one death The disease was as usual diagnosed as chicken pox and no precautions were taken

On the Sick List—Dr Henry C Dixon Tunnelton, is dangerously ill following a cerebral hemorrhage——Dr Andrew J Chittick, Burlington has been seriously ill with septicemia from a scratch wound

Personal—Dr Robert B Short, Union Mills, had a rib broken in a collision between two trains near Chicago August 9——Dr Edward A Willis formerly demonstrator of ophthalmic and aural surgery rhinology and laryngology in the department of medicine of the University of Michigan has located in Indianapolis

July Disease and Death—The July Bulletin of the State Board of Health says The health of the State in July was not so good as in July 1903 Diarrheal diseases led in prevalence, and typhoid fever which in last year was sixth in prevalence, stood fourth this month The typhoid fever epidemic in Indianapolis in June abated somewhat in July Tuberculosis showed an increase The total number of deaths was 2 772 an annual rate of 12 3 per 1,000 In the preceding month the rate was 10 1 per 1,000 and in July 1903 12 9 per 1 000 Pulmonary tuberculosis caused 346 deaths exceeding the same month of last year by 31 typhoid fever 68 diphtheria, 10 scarlet fever 5, measles 4, whooping cough 6 pneumonia 85, diarrheal diseases 296, cerebrospinal meningitis 20 puerperal fever 10, cancer 116, violence, 189, smallpox 5 The cities also show a higher death rate than the country in typhoid diphtheria, pneumonia, diarrheal diseases cerebrospinal meningitis puerperal fever cancer and violence

MARYLAND

The Medical and Chirurgical Faculty of Maryland will hold its semi annual fall meeting at Ocean City September 9 and 10

Resignation —Dr B Curtiss Miller for eight years resident physician in charge of the Western Maryland Hospital Cumberland, has resigned

Urges Sanatoria —City Commissioner Bosley of Baltimore in his annual report urges that the state and city jointly establish sanitoria for the treatment of consumption in the Blue Ridge Mountains

Kills Algae But Not Bacteria —Dr Stokes, city bacteriologist of Baltimore, reports that the copper sulphate used to purify the drinking water, while destroying algæ has no effect on bacteria

Cornerstone Laid.—The cornerstone of the addition to the Frederick City Hospital, to cost $10,000 and donated by Mrs Margaret M Hood of Frederick was laid, July 8 with impressive ceremonies

Gone to Investigate Typhoid Epidemic.—Dr Marshall L Price of the State Board of Health has gone to Mount Savage to investigate the typhoid fever epidemic there Up to August 10 there had been 93 cases and two deaths The outbreak is traced to a man who came to the town July 4 with the disease The deaths from the disease in Maryland average about 125 per annum

MICHIGAN

Appendectomies —Dr Levi J Lennox Detroit was operated on for appendicitis August 2——Dr Raymond A Clifford, Ypsilanti, who was operated on for appendicitis in Detroit July 17, is progressing favorably toward recovery

Sentenced for Abortion —Dr Scott Fraser Hodge Detroit convicted of manslaughter in connection with the death of Anna Lehmann was sentenced on August 2 to imprisonment for not less than six nor more than nine years in the state reformatory at Ionia

Personal.—Dr Oscar C Breitenbach has been appointed health officer of Escanaba——Dr Flemming Carrow has resigned the chair of ophthalmology and otology in the University of Michigan, Ann Arbor and will locate in Detroit Dr S Edwin Cruse, Iron Mountain, has been commissioned major and surgeon and assigned to the Third Infantry, M N G

Comparative Morbidity —For July compared with the average for July in the last ten years smallpox diphtheria and puerperal fever were more than usually prevalent and cholera morbus cholera infantum measles typhoid fever intermittent fever, remittent fever, dysentery, scarlet fever erysipelas, whooping cough and pneumonia were less than usually prevalent During July the diseases which are usually most prevalent during the summer months in the ten preceding years were less prevalent This lessened prevalence was probably due, in great part to the lower than average temperature during the month

The Most Dangerous Communicable Diseases —Meningitis was reported present in Michigan during July, 1904 at 8 places, whooping cough at 14 places, pneumonia at 20 places, diphtheria at 57 places, scarlet fever at 70 places, typhoid fever at 73 places, measles at 73 places, smallpox at 116 places, and consumption at 288 places Meningitis was reported at 1 place less, whooping cough at 6 places less, pneumonia at 54 places less, diphtheria at 4 places less, scarlet fever at 26 places less, typhoid fever at 2 places less, measles at 95 places less, smallpox at 62 places less and consumption at 6 places more in July 1904 than in June

MINNESOTA.

Personal.—Dr Andrew Henderson Merriam Park, St Paul, has gone to Scanlon Minn, to take charge of the sanitarium there——Dr Frank H H Allen has been elected health officer of Staples

Smallpox on the Wane —The number of new smallpox cases in the state for the week ended August 1 was only 6 the smallest number since the outbreak of the epidemic in the winter of 1898

St Paul's Health.—During July 284 births and 134 deaths were reported, the latter being equivalent to an annual death rate of 8 68 per 1,000 Only 22 cases of communicable disease were reported during the month

Graduates in Medicine —Hamline Medical School, at its twenty first commencement exercises conferred degrees on a class of 15——The College of Medicine and Surgery of the University of Minnesota Minneapolis, graduated a class of 82

State Society —The Minnesota State Medical Society, at its thirty sixth annual meeting held in St Paul, elected the following officers President Dr John W Bell, Minneapolis, vice presidents George S Wattam, Warren, Drs John Williams, Lake Crystal and James H Haines, Stillwater, secretary Dr Thomas McDavitt, St Paul, and treasurer, Dr Richard J Hill, Minneapolis

Tents for Isolation Hospitals —At a recent meeting of the Minnesota State Board of Health, it was decided to advise every township that does not have a special isolation hospital to buy at least one double tent for use as a portable hospital By the use of such tents, the spread of contagious diseases throughout entire families so common in the country districts, can be largely avoided The double tent is much more easily disinfected than a house and by erecting it in the yard the family of the quarantined person need not be inconvenienced

NEBRASKA

Personal —Dr Clinton I Sapp city physician of South Omaha has resigned and has been succeeded by Dr John Koutsky Dr William S White South Omaha, has been reappointed assistant physician of Douglas County

Many Graduate.—John A Creighton Medical College, Omaha, conferred diplomas on a class of 28——At the second annual commencement of the University of Nebraska Medical College, Omaha, a class of 30 received diplomas

New Officers —At the thirty sixth annual session of the Nebraska State Medical Society in Omaha, the following officers were elected President, Dr Robert C McDonald, Fremont, vice presidents, Drs John M Mayhew, Lincoln, and Charles L Mullins, Broken Bow, secretary, Dr A D Wilkinson, Lincoln, corresponding secretary, Dr H Winnett Orr Lincoln, and treasurer Dr James L Greene, Asylum

Electro Medical Institute Loses.—The State Electro Medical Institute" of Omaha, which sued a patient and was defeated on the ground that it was not authorized to practice medicine has had proceedings instituted against it by the State Board of Health, alleging that the Institute was a corporation, and that it assumed to practice medicine asking that it be enjoined and prohibited from practicing medicine or doing any business in the state The suit was decided in favor of the board and the injunction issued The Institute has appealed to the Supreme Court

NEW MEXICO

Hospital News.— The Sisters of the Sorrowful Mother are about to erect a hospital in Roswell——The Silver City Hospital Association has been merged into the Santa Fe Pacific Hospital Association

State Medical Society —The twenty third annual session of the New Mexico Medical Society held at Albuquerque, closed with the election of the following officers Dr Edwin B Shaw, Las Vegas, president, Dr J Frank McConnell, Las Cruces, Thomas B Hart, Raton and Percy G Cornish, Albuquerque vice presidents, Dr Guy H Fitzgerald, Albuquerque secretary and Dr Harry M Smith, Las Vegas, treasurer

Sanatoria.—A tent city sanatorium to cost $30,000, will be erected three miles north of Albuquerque and will be in charge of Dr James E Miller——Dr Robert E McBride has purchased a tract of land near Las Cruces on which he will conduct a sanatorium——The Las Vegas Hot Springs Sanatorium Company has been incorporated by Dr William T Brown, Lancaster, Wis, and others with a capital stock of $400,000 The company proposes to reopen the Montezuma Hotel as a sanatorium for wealthy consumptives and also to operate in connection a tent city where persons of limited means will be treated at actual cost

NEW YORK

Penitentiary Quarantined.—The Albany County Penitentiary has been quarantined because of smallpox

Diphtheria is Epidemic —Elmira is undergoing a mild epidemic of diphtheria In July 41 cases were reported, with one death

Buffalo Personals.—Dr Charles G Stockton is in Europe——Dr Charles von Bergen has taken an automobile trip through New England

Village in Quarantine —The entire village of Dresden has been placed in quarantine on account of an epidemic of small pox The Board of Health of Geneva has recommended general vaccination

Reception Hospital Incorporated—The reception hospital which is to receive and care for consumptives at Saranac Lake, was incorporated, August 10 by Drs Edward R Baldwin, Edward L Trudeau and others

Vienna Visitor—The Roswell Park Medical Club Buffalo listened to an address by Dr Bernard Panzer of Vienna on Diseases of the Accessory Sinuses of the Nose in Children' While in Buffalo Dr Panzer was the guest of Dr George F Cott

July Deaths in Buffalo—The monthly report of the Department of Health for July shows an annual death rate of 17 08 per 1,000 The principal causes of death were as follows Consumption, 44, cerebrospinal meningitis, 3, cholera infantum 63, diphtheria 7 typhoid fever 12, debility 32, cancer 20 apoplexy 23, meningitis, 12 valvular disease of the heart 24 pneumonia, 28 appendicitis, 7, diarrhea 11 gastritis 6 gastroenteritis 19 ileocolitis 10, diabetes 9, nephritis 15 and violence, 34 The total deaths for July were 541, as compared to 513 deaths for July, 1903

New York City

Sir Felix Semon, *D V O physician extraordinary to the King* of England, who is to deliver the address on laryngology at the St Louis Congress of Arts and Sciences will arrive in New York early next month where he will be entertained by Drs George M Lefferts and Emil Mayer

Death Rate Increases—*For the first quarter of the year there* were reported to the health department 12,590 deaths or 22 58 per 1,000 an increase of 1 60 points on the average for the last five years This increase was due to the prevalence of measles influenza accidents, and a very severe winter

Personal—Dr *William T Jenkins, formerly health officer of the Port of New York, has been appointed sanitary engineer* in the health department——Dr Patrick J Murray assistant sanitary superintendent for Brooklyn has been removed from office His successor has not been appointed

Cancer Hospital Appeals.—Mother Alphonsa Lathrop a *daughter of Nathaniel Hawthorne* has appealed for public assistance in maintaining the St Rose's Free Home and hospitals for the destitute cancer patients The work of caring for thirty or more of these patients is at a standstill

Contagious Diseases.—There have been reported to the sanitary *Bureau for the week ended August 6,* 366 *cases* of tuberculosis with 146 deaths 232 cases of diphtheria with 33 deaths, 133 cases of measles with 6 deaths, 68 cases of scarlet fever, with 2 deaths, 67 cases of typhoid fever with 13 deaths, 3 cases of smallpox *and* 11 *cases of varicella*

Typhoid Fever Epidemic—The Board of Health has made a house to house canvass of the neighborhood of the Jerome Park reservoir, where a colony of Italians are at work, and this has resulted in finding twenty five cases This reservoir is not being used now and therefore the city of New York is not *endangered* Numerous springs are to be found which bubble up from the floor of the big basin and the board is inclined to believe that here may be found the source Each of these suspected holes has been labeled 'poison" in English and Italian The water has not yet been examined for the germs of the disease

PENNSYLVANIA

Much Typhoid in Pittsburg—On August 9 33 new cases of typhoid fever were reported to the Pittsburg Bureau of Health

Typhoid at West Chester—Thirty cases of typhoid fever have been reported to the board of health within a short time Efforts are being instituted by the board to discover the cause of the outbreak, as the town has always been remarkably free from the disease The present rate is only 3 to each 1 000 population but this is extremely high *as compared* with the record of former years

Philadelphia

New Superintendent for Blockley—Mayor Weaver has appointed William F Defrates superintendent of the Philadelphia Hospital, to succeed the late Robert M Smith

New Medical Inspectors—Dr J Frank Wallis was recently appointed district medical examiner in place of Dr Andrew J Maher, resigned——Drs Howard G Fretz and Harlan Shoemaker have been appointed assistant medical inspectors in the bureau of health, vice Drs Harold B Ward and William P Hearn

Bequests—By the will of the late *Benjamin F Teller,* who died July 15, the Jewish Hospital Association receives $35,000, for the establishment of free beds——The will of the *late Cornelia Thompson* devises $10,000 to the Presbyterian Hospital for *the endowment of two free beds* and $5,000 for a free bed in the Children's Hospital

Health Report—The increase in typhoid fever during the past three weeks was particularly noticeable in the reports for *the last seven days* One hundred new cases and 11 deaths were *recorded for the week ending July 13* as compared with 84 cases and 5 deaths for the preceding seven days There were in all 191 cases of contagious disease reported, as follows Diphtheria, 40, scarlet fever, 51, typhoid fever, 100 The city still *remains totally* free from smallpox, no cases being reported since July 9 The *general death rate* is *higher,* the total deaths numbering 141 This is an increase of 13 over those of last week and 15 more than for the corresponding *period of last year* Seventy five of the deaths occurred in infants under two years of age

SOUTH CAROLINA

Personal—Dr Fred L Potts, Spartanburg, has returned from Philadelphia after having undergone an operation for appendicitis——*Drs H W Shaw and Walter D Wright* have been made members of the board of health of Langley

To Transfer Hospital to Society—The Medical Society of South Carolina trustees under the will of Thomas Roper, proposes that the present Charleston City Hospital be conveyed to *it for a nominal sum, and that the entire management* of the institution be entrusted to the society The society agrees to expend about $100,000 in the improvement of the hospital buildings, which practically involves their reconstruction and *adaptation to conform to modern scientific ideas*

VIRGINIA.

Smallpox—It is reported that there are more than a hundred cases of smallpox in Buchanan County 25 or 30 of which are in Grundy the county seat The circuit judge, on this account, has decided not to hold the regular session of court

Mortality of 1903 in Richmond—During 1903, 884 white persons and 1,051 colored died in Richmond, a rate of 19 35 per 1,000 for the former, and 27 84 per 1,000 for the latter In May occurred the greatest mortality, 201 *and in August the* least, 123

College Incorporated—The University College of Medicine Richmond, has been granted a charter by the corporation commission The incorporators were Drs J Allison Hodges, Stuart McGuire, Paulus A Irving and Landon B Edwards, all of Richmond

Personal.—Dr Elisha Barksdale of Halifax County has succeeded Dr A D Louthan as resident physician at Memorial Hospital, Richmond——Dr O C Brunk has succeeded Dr Hugh C Henry *as first assistant physician at the Central State* Hospital, Petersburg——Dr Herbert M Nash, Norfolk, has succeeded Dr Frank A Walke, deceased, as surgeon of the Pickett Buchanan Camp of Confederate Veterans

GENERAL

Osler to Go to Oxford University—Dr William Osler has accepted the regius professorship of medicine at Oxford University in *succession to Sir John Burton Sanderson* He will assume the duties of the new position next spring after completing the school year of 1904 5 at Johns Hopkins The appointment has been approved *by King Edward Dr Osler* reached New York, August 14, *on the* White Star liner *Cedric and is now* with his family at Murray Bay, below Quebec, Canada Dr Osler has been considering this position for some time and has felt the need of a change from the extraordinary pressure of work *now on him His new* position will give him *opportunity* for more literary work in connection with the mass of clinical data that he has accumulated in his work in this country

FOREIGN

Medical Study Trips.—The German medical study trip to the spas of Germany September 7 17, will be diversified by addresses by Brieger, chief of the Berlin Hydrotherapeutic Institute Flügge of sputum droplet fame Goldscheider, Ott, chief of the unique maternity at St Petersburg Rosin, *Stern and* von Strümpel *Dr W H Gilbert of* Baden Baden has the *matter in* charge, as mentioned on page 1619 of the last volume The French study trip is in charge of Landouzy and will start from Lamotte September 3 and disband September 15 after visiting Vichy and other spas in Auvergne These study trips are becoming more and more popular every year, and at fact hundreds of physicians for an inexpensive outing with congenial enthusiasts

Bacteriologic Institutes in the French Colonies.—France has organized institutes in her colonies modeled after the Paris Pasteur Institute Madagascar, Algiers Tunis, New Caledonia, Senegal each has one or more, and French Indo China has three It was in one of these Cochin China laboratories that the idea occurred to Calmette to utilize the buffalo for vaccine production, and here also he discovered the ferments utilized now in the production of alcohol Here also he commenced his studies on snake poison which resulted in the discovery of his antivenom serum Yersin's work in one of these laboratories resulted in the production of his anti plague serum A Colonial Congress" has recently been held at Paris which outlined new tasks for the future but also showed that more had already been accomplished in the way of hygiene and education than had been realized

Pulmonal Infusion.—Jacob's published communication was reviewed in The Journal of July 30 page 361, and also on page 434, August 6 In the concluding portion he relates his clinical experience with 5 patients treated by direct infusion of tuberculin into a lower bronchus The communication was first presented at a meeting of the Berlin Medical Society and Westenhoeffer created a sensation by stating his impression that the infusion had hastened the fatal termination in one of the patients He cited the "office register of the hospital—the Charite—in confirmation of these statements but Jacob declared that this register was not kept strictly accurate, the main reliance being on the official clinical record kept in each ward This contention between the physicians led to a spirited debate and Jacob sent a letter to a Berlin daily on the subject As the 'office register" is accepted as testimony in the courts, this official announcement as to its unreliability attracted public attention Jacob stated that the patient in question was almost moribund, and that the tracheotomy and infusion were done as a possible last resource The denunciations of his conduct were so bitter Lazarus and Kohn sustaining Westenhoeffer's assertions, that the appointment of a committee to investigate the matter was considered but no official steps were taken He was accused of suppressing certain circumstances and cases in his report and of performing tracheotomy on subjects presenting no indications for such a measure His contract with the hospital expires in October and no steps have been taken by the authorities to renew it

Queries and Minor Notes.

Anonymous Communications will not be noticed Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish his name will be faithfully observed

CHARGES BETWEEN NURSES AND PHYSICIANS

R. K City of Mexico writes Is it ethical for a physician to charge a nurse for medical attention? There is a case here in this city which is causing much comment A nurse was called on a smallpox case and the physician advised her to be vaccinated and he charged her $1 50 It did not take and he vaccinated her the second time charging her the same price The girl has since had typhoid fever and now is paying him with what little money she can earn for his services through the fever He is a graduate of the University of Michigan

Answer.—In reply to the opening question of our correspondent it may be freely stated that there is no general obligation resting on medical men to give gratuitous professional attention to nurses We are not aware that nurses have ever served physicians or members of their families—except because of personal reasons—for less than they would have asked laymen for like service Therefore of course they can expect no concession in return In spite of this fact however physicians usually are generous and render to a nurse for professional service a bill much less than would be asked of a layman In case the nurse is an unusually capable one with whom the physician has been closely associated in the care of the sick she commonly is not called on for a fee That however is a matter of personal relation not of established interchange of courtesy As has before been observed the relation between physician and nurse has never been clearly defined It is to be regretted that this was omitted from our new and admirable Principles of Ethics for there are many points of contact between the two callings that need elucidation For instance regarding the point at issue the claim is set up for the nurse that attendance on a physician in illness takes all her working time cutting off entirely her means of support and that therefore gratuitous service is too much to ask This contention seems irrefutable so that all the nurse could offer would be some concession in the weekly wage but so far as we are informed this is not the custom As before noted the physician should be entirely governed by the local circumstances *If he attends a nurse in a long serious illness* he should be entitled to some compensation If the service is small such as a vaccination and the nurse is well known to the physician, it certainly is customary to make no charge Regarding vaccination we believe it to be usual in this country for the physician in any case to make no charge for a revaccination when a recent vaccination has failed to take From the above observations our correspondent will gather that such a course toward a nurse as that described by him appears wholly indefensible but that before final judgment could be pronounced on the ethics of such a particular case it would be necessary to learn the circumstances influencing the physician to adopt this course toward this nurse

EFFECT OF MORPHIN IN PREGNANCY

S K of Dakota asks 1 Does the excessive administration of any drug produce permanent insanity? If so what drugs? 2 Is it advisable to administer daily large doses of morphia to a pregnant woman *for three months prior to her confinement for supposed gastric ulcer? 3 What effect will it have on the child?* 4 Is it right to treat a general pruritus occurring in later months of pregnancy with daily hypodermatic injections of morphia? 5 Does continuous administration of morphia produce a general erythematous eruption with general pruritus?

Answer – 1 Temporary 2 Morphin is given most frequently *during pregnancy to prevent labor in cases of threatened labor or* abortion It may be employed to meet other indications but it should not be used for ulcer of the stomach The approved method of treating this pathologic condition during pregnancy as in the non pregnant state is to keep a patient in bed and put nothing into the stomach for ten to fourteen days relying wholly on rectal feeding Then little by little careful feeding is begun. 3 Morphin as well as other alkaloids and soluble drugs will pass through the placenta into the blood of the child The fetus is affected by morphin administered to the mother but to what extent is a matter of dispute No doubt a dose dangerous to the mother may be dangerous to the fetus *Probably* a moderate therapeutic dose will not injure the child When the mother takes morphin regularly *during pregnancy the fetus can acquire the morphin habit and* suffer afterwards from its sudden withdrawal 4 and 5 Genital and vulvar pruritis occurring during pregnancy are symptoms of gravidal intoxication and should be controlled by eliminants diet and soothing washes or salves Morphin is not necessary nor desirable since it interferes with elimination and so tends at times to increase the trouble

TIME TO TAKE ALKALIES TO MAKE URINE ACID

Dr William C Riley San Francisco writes Regarding inquiry of J W B Virginia, page 275 July 23, 1904 as to proper time to give alkalies to make the urine acid also concerning answer by J T Howard page 342, July 30 1904 it is pertinent to enquire does administration of alkalies *ever* make the urine acid? Clinical and experimental data show the contrary without splitting hairs I might ask what is an alkali and what is an alkaline reaction? Sodium bicarbonate ($NaHCo_3$) is usually regarded as an alkali Is it? Chemically it is an acid salt. Physiologically it acts like an alkali It acts as an alkali with litmus and with all other indicators used to determine such facts except phenolphthalein with the latter the pure salt (free from carbonate) acts as an acid simply because carbonic acid is sufficiently strong (to use a common but misleading term) to decompose the weak saline combination of the indicator Regarding sodium phosphates there are three well defined salts—the first two 1 NaH_2Po_4 and 2 Na_2HPo_4 (ordinary phosphate of soda) being chemically acid salts the third 3 Na_3Po_4 is chemically a neutral salt To the taste and to litmus numbers two and three are alkalies To state that a given chemical is acid or alkaline one must state the indicator used Thus a solution of sodium phosphate neutral to litmus is alkaline to diamidoazobenzole alizarin (alizarin monosulphonate of sodium) methyl orange and tropeolin and also to the tongue It is acid to phenolphthalein (unless boiled) A solution of sodium phosphate which is acid to litmus and also to taste is alkaline to all the other indicators save phenolphthalein A solution of sodium phosphate alkaline to litmus and to taste is alkaline to all other indicators save phenolphthalein and it reacts red to that when boiled. ($NaHCo_3$ being split up into Na_2Co_3 and Co_2 the latter being driven off) So all theory aside how in the world can one obtain an acid salt of phosphoric acid by adding alkalies to a neutral salt, or even to an acid salt of the same base It is too utterly absurd.

RELATION OF SEX OF CHILD TO THE RELATIVE AGE OF PARENTS

W K L of Havana writes Is there any law in regard to the influence of age of married couples on their *offspring?* I understand that if the mother is older than the father the children begotten from such *parents will be females*

ANSWER—According to the theory of Hoffacker and Sadler which was promulgated about seventy five years ago the sex of the child is likely to be the same as that of the elder parent when there is disparity in the ages of the parents This theory has been overthrown by Berner and others Certain statistics tend to prove the contrary namely that the sex of the child is more apt to be that of the younger parent The problem of the determination of sex is still unsolved and there are no collections of statistics or other data from which we can deduce rules available for practical application

INFANT SWALLOWS AND SAFELY EXPELS LARGE WIRE STAPLE

DR C D SCRATTON Rothville Mo writes About July 18 1904 I was consulted by a mother in regard to her 9 months old baby swallowing a common fence staple She said she felt it as it passed into the gullet sharp points down The child was limp and pale for a few minutes when all was as well as usual I told her that she was probably mistaken as it was almost impossible for a child to swallow such a thing The anxious mother continued to watch however and at the end of 17 days the staple passed without in any way harming the child It measured 1¼x½ inch and was as sharp as these instruments usually are

ANSWER—Although such sharp objects often pass through the canal without doing harm they sometimes lodge or inflict other injury If a child is old enough free administration of slippery elm bark may be tried Cases are reported in which the fibers have enveloped the sharp object completely protecting the mucosa

Marriages.

CLARA L KEMBAL M D Bloomfield Iowa to C H Cronk of Tama Iowa, July 31

GEORGE A HARTMAN M D to Miss Agnes Graham both of Baltimore August 1

W FRANK ASHMORE M D to Miss Luna Cater both of Anderson, S C, August 2

DAVID L AXILROD M D to Miss Lillian Aronsohn both of St Paul, Minn August 3

O E SPILLER M D Mauldin Mo to Miss Ruby Larkey of Memphis Tenn, August 9

ALCIMUS H BASKIN, M D, to Miss Agnes Hermena Muller both of Atlanta, Ga August 3

RODERICK B CHISHOLM, M D, to Miss Belle Hayes both of La Porte City Iowa August 3

JUSTIN J LEAVITT, M D, Molalla Ore to Miss Sophia M Boyles of Portland Ore, August 2

CHARLES H LUDLOW M D Covington, Ind, to Miss Coralie Daniels of Savoy Ill, in November 1903

HARRY A STALKER, M D Pond Creek Okla, to Miss Maude Webster of Durand Ill at Rockford Ill August 4

CHARLES EDWIN FRENCH M D San Francisco, Cal, to Miss Gertrude Twineham of Cincinnati Ohio at Princeton Ohio, August 16

Deaths.

Orlando Brown, M D Yale University Medical Department New Haven, Conn 1851 assistant surgeon of the Eighteenth Massachusetts Volunteer Infantry later inspector of hospitals, and in 1865 made colonel of the Twenty fourth U S Infantry, brevetted brigadier general for gallant conduct in the service, organizer of the Bureau of Freedmen and Refugees, who resigned his commission in 1869, and resumed practice in Washington, Conn, once president of the Litchfield County Medical Society and president of the Connecticut State Medical Society in 1889, died at his home in Washington August 4 after an illness of several months, aged 77

John O'Flaherty, M D Albany (N Y) Medical College, 1864, a member of the Connecticut State and Hartford County medical societies, president of the Hartford Medical Society, assistant surgeon of the One Hundred and Seventeenth New York Infantry in the Civil War for several years president of the medical board of St Francis Hospital died at his home in Hartford, July 31 from nephritis after an illness of seven months aged 62

Albert Preston Fulkerson, M D Jefferson Medical College Philadelphia, surgeon in the Confederate service during the Civil War died at the home of his brother in Lexington Mo, from meningitis after an illness of three weeks, aged 68

Romeo F Chabert, M D New York University, New York City, 1856 of Hoboken N J, founder and consulting surgeon of St Mary's Hospital and consulting physician to Bayonne Hospital, died at his summer home in Asbury Park, N J, August 1, after an operation for intestinal obstruction, aged 76

Walter J Byrne, M D Medical Department St Louis University, 1848, surgeon of the Ninth Kentucky Infantry, C S A, during the Civil War, some time superintendent of Central Kentucky Hospital for the Insane, Lakeland died at his home in Russellville, Ky, August 1, after a short illness, aged 80

George W Menees, M D University of Nashville (Tenn) Medical Department, 1855, a member of the American Medical Association, and one of the oldest and best known physicians of Robertson County, Tenn, died at his home in Springfield from peritonitis, August 1, after an illness of two days, aged 70

Frank J Havlicek, M D Medical Department of Adelbert College of the Western Reserve University, Cleveland, Ohio 1882, a member of the American Medical Association, and a well known practitioner of Cleveland, died suddenly at his home in that city, August 7, from cerebral hemorrhage, aged 45

A Carter Webber, M D Harvard University Medical School, Boston 1849, the dean of the medical profession of Cambridge, Mass, who retired from practice in 1900, died suddenly at the home of his son in Manchester by the Sea Mass, August 5, from acute bronchitis, aged 78

Henry M W Moore, M D Columbus (Ohio) Medical College, 1885, a member of the American Medical Association and a veteran of the Spanish American War died at his home in Columbus, August 6, from an overdose of chloral aged 42

Felix F Cassaday, M D Jefferson Medical College, Philadelphia 1867, a member of the American Medical Association and of the Philadelphia County Medical Society, died at his home in Philadelphia, from apoplexy, August 2, aged 62

Charles Thomas Varnon, M D University of the State of Missouri Medical School, Columbia, 1876, coroner of Audrain County, Mo died at his home in Mexico, Mo from Bright's disease, July 24 after a long illness aged 53

John N Woodruff, M D College of Physicians and Surgeons in the City of New York state senator in 1897 probate judge for several years died suddenly from heart disease at his home in Sherman, Conn July 18, aged 68

John Leonard Evans, M D University of Louisville (Ky) Medical Department, 1888, of Colorado Springs Colo died at Norton Infirmary, Louisville July 30, from pulmonary abscess, after an illness of four years, aged 38

Charles Newton Thompson, M D Bellevue Hospital Medical College, New York City 1884 of New York City for many years surgeon of the Ninth Infantry N G, N Y, died at Nantucket Mass August 7, aged 54

Francis B Ambler, M D Denver College of Medicine University of Denver, Colo 1897, of Northville Mich died at St Mary's Hospital, Detroit, August 7, one day after an operation for intestinal obstruction, aged 38

James Henry Reynolds, M D Detroit (Mich) Medical College, 1871, formerly mayor of Adrian, Mich, died at his home in that city from cerebral hemorrhage July 30, after an illness of one week aged 59

Abial W K Newton, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1871, some time coroner of Suffolk County, Mass died at his home in Boston August 1, aged 68

David Y Winston, M D Department of Medicine of the University of Pennsylvania Philadelphia, 1888 died at his home in Clarksville, Tenn August 7, from typhoid fever, after a short illness, aged 42

Thomas Franklin Thornton, M D Detroit (Mich) Medical College, 1873, of Grand Ledge, Mich, died at St Mary's Hospital, Detroit, August 3 from diabetic gangrene, after an illness of three weeks

Evans Prothro, M D Memphis Hospital Medical College, 1898, of England, Ark, died at the home of his brother near Little Rock, Ark, from sunstroke, after an illness of only a few hours, aged 32

Henry S Kimmel, M D Cincinnati College of Medicine and Surgery 1861, a member of the state and county medical societies, died at his home in Dayton, Ohio, August 6, aged 70

Gabriel H Hill, M D Louisville (Ky) Medical College, 1874, of Charlottesville Va, died at Spartansburg, S C, July 15, from the effects of a fall received several weeks before, aged 69

Richard C Bond, M D, Miami Medical College, Cincinnati, 1857 of Aurora Ind died at the home of his sister in Quiet Dell W Va, July 7 from pneumonia after an illness of five days aged 83

Robert Milbank M D New York University New York City 1878 of New York City visiting physician to New York Infant Asylum, died at Byram Shore N Y from apoplexy August 4 aged 66

Alfred A Wall, M D Department of Medicine of the University of Pennsylvania Philadelphia 1849 of Tuscumbia Ala died at the home of his son in Jasper Ala July 11 aged about 80

R Bliss Kennedy, M D Beaumont Hospital Medical College St Louis 1901, died at his home in Burlington Junction Mo July 26 from the effects of a self inflicted gunshot wound of the head

Joseph Weaver, M D Medical College of Ohio Cincinnati 1838 who retired from practice in 1870 died at his home in Miamisburg Ohio July 19 after an illness of eight days aged 87

John McClary Steele, M D Laval University Medical Department Quebec 1890 while suffering from melancholia shot and killed himself at his home in Worcester Mass August 1 aged 37

James Hutchinson, M D Missouri Medical College St Louis 1876 died at his home in Boling Kan from disease of the digestive apparatus August 3 after an illness of four months aged 62

William B Rehling, M D Rush Medical College Chicago 1903 of Alhambra Ill, died at the home of his mother in Waterloo Ill from typhoid fever July 28 after an illness of three weeks aged 26

William C Darnall, M.D Vanderbilt University Medical Department Nashville Tenn 1890 died at his home in Huntsville Ala from consumption July 28 after a lingering illness aged 35

Benjamin F Egleston, M D University of Buffalo (N Y) Medical Department 1882 died from apoplexy at his home in Churchville N Y July 25 after an illness of only a few hours aged 58

Robert L Gattis, M D University of Maryland School of Medicine Baltimore 1888, died at his home in Chapel Hill N C July 29 from typhoid fever after an illness of six weeks aged 34

George A Thomas M D Louisville Medical College 1878 a member of the American Medical Association surgeon to the Indiana Railroad died at his home in Linton Ind August 1

Thomas Ballard McDow, M D Medical College of the State of South Carolina, Charleston, 1879 was found dead in bed at his home in Charleston July 26 from heart disease aged 49

John J Adderhold, M D Atlanta (Ga) Medical College 1891 of Worth, Ga, died at the Macon City Hospital July 30 from pneumonia a short time after a mastoid operation aged 38

Clarence M Boyd, M D Northwestern Medical College of St Joseph Mo, 1892, of St Joseph died at Ensworth Hospital in that city, July 17, from cerebral hemorrhage aged 33

George Ernest Mayhew, M.D College of Physicians and Surgeons of Chicago, 1897, of Red Bluff, Cal, died at Colvear Springs, Cal, July 19, after a long illness aged 32

Henry Venne, M.D Faculty of Medicine of Queen's University, Kingston, Ont 1861 died at the Old Folks' Home Mattoon Ill from Bright's disease, July 14, aged 70

Martin B Kellar, M D Miami Medical College Cincinnati, 1868, died at his home in Vallejo, Cal, July 8, from heart disease after an illness of several months, aged 61

C A Stanfield, M D Memphis (Tenn) Medical College died at his home in Toledo Ark, August 3, after a lingering illness

William R McLaren, M D Illinois, 1871 died suddenly at his home in Detroit, Mich, July 28, from angina pectoris, aged 55

Charles A Scribner, M D Illinois 1891 died suddenly at his home in Dalton, Mich June 28, from angina pectoris aged 44

John S. Lampman, M D Pennsylvania 1859, died at his home in Wilkesbarre, Pa August 5, after a short illness aged 65

J T Stoddard, M D, of Jonesboro, Ark, died at Orlando Fla July 23 from Bright's disease, after an illness of two years

Helen Gray Da Costa, M.D Woman's Medical College of Chicago 1898, died March 13, at Princeton Ind aged 29

David B Taylor, M D Ohio 1869, died suddenly at his home in Millburn Ill, August 1, from heart disease, aged 78

Thomas W McGaughey, M D Chicago Medical College, 1892, died at his home in Pennington Point, Ill, February 28

Guy W O Mitchner, M D Barnes Medical College, St Louis, committed suicide at Guthrie, Okla, March 28, aged 25

C C McKinley, M D College of Medicine and Surgery, Cincinnati, 1865, died recently at Champaign, Ill, aged 76

Mark R Wright, M D Medical College of Alabama, Mobile 1873, died at his home in Knox, Ind, June 25 aged 68

Lewis B Stewart, M D Indiana, 1897, died at his home in Marengo Ind, August 1, from heart disease aged 83

Death Abroad

William Alexander McKeown, M D, R U S 1869, Fellow of the Royal Academy of Medicine of Ireland, surgeon to the Ulster Eye, Ear and Throat Hospital Belfast, lecturer in ophthalmology and Otology, Queen's College, Belfast, some time president of the Ulster Medical Society, and of the North of Ireland Branch, British Medical Association an ophthalmologist of more than local renown, whose most important advances in his specialty were the use of the magnet for the removal of metallic foreign bodies from the eyeball, and the operative treatment of immature cataract died at his home in Belfast, July 9, aged 60

Sir Frederic Bateman, M D Aberdeen, 1850, M R C S Eng, 1849, M R C P Lond, 1866, F R C P Lond, 1876, L S A, 1850, eminent as a physician, scientist and psychologist, a member of many English and foreign learned societies, laureate of the Academy of Medicine of France, and medical and sociological author of repute, consulting physician to Norfolk and Norwich Hospital, knighted by the Queen in 1892, died at his home in Norwich England, August 10, aged 80

The Public Service.

Army Changes

Memorandum of changes of station and duties of medical officers U S Army week ending Aug 13 1904

Weed Frank W asst surgeon ordered to proceed from Fort McHenry to Fort Howard Md for temporary duty

Freeman Paul L asst surgeon ordered to proceed from Fort Slocum N Y to Fort Warren Mass for temporary duty

Reilly John J asst surgeon leaves Jackson Barracks La on thirty days sick leave

Hathaway L M asst surgeon relieved from duty at Fort Davis Alaska and ordered to Fort Gibbon, Alaska

Heizmann Chas L asst surgeon general granted fifteen days leave of absence

Dale F A asst surgeon granted thirty days leave of absence about September 1

Ashburn P M asst surgeon left Fort Missoula Mont with troops on practice march

Gosman Geo H R asst surgeon assignment to duty with troops at maneuvers Manassas, Va is revoked

Little Wm L asst surgeon ordered to accompany troops from Camp Geo H Thomas Ga and for duty with same at maneuvers Manassas Va Aug 26 1904

Reno Wm W asst surgeon assignment to duty at Manassas Va during maneuvers revoked

Reno Wm W asst. surgeon relieved from duty at Fort Crook Neb and ordered to duty with troops at the Louisiana Purchase Exposition St Louis

Church James R, asst surgeon sick leave of absence extended two months

Fyster Theo C asst surgeon reported at Ancon Canal Zone, Isthmus of Panama left West Point N Y July 7 1904

Burney Chas N asst surgeon ordered to accompany detachment hospital corps from Fort Jay N Y to Gainesville Va not later than Aug 18 1904

The following named medical officers will report Aug 18 1904 to the Division surgeon First Provisional Division near Manassas Va Capt W F Truby at Fort Preble Me. Capt. H S Greenleaf Fort Moultrie S C First Lieut Geo H Crabtree Fort Jay N Y First Lieut Wilfrid Turnbull Fort Strong Mass First Lieut Geo W Jean Fort Wadsworth N Y First Lieut Jas I Bevans, Fort Barrancas Fla

To the Division surgeon Second Provisional Division near Thoroughfare Va. Capt P C Fauntleroy Madison Barracks N Y Capt B H Dutcher Fort Hancock N J Capt F H Hartnett, Key West Barracks Fla Capt Clyde S Ford Fort H G Wright N Y First Lieut Wm L Little Camp Geo H Thomas Ga.

To the First Provisional Division near Manassas Va Major Charles Willcox Fort Totten N Y to accompany troops from Fort Slocum N Y Major Jos T Clarke Fort Ethan Allen Vt to accompany troops from that post Major Henry A Shaw Fort Adams R I Capt Jas S Wilson to accompany troops from Fort Myer Va Capt F R. Schreiner Fort McHenry Md First Lieut Chandler P Robbins, Fort Terry, N Y First Lieut Henry S Kiersted Fort Myer Va to accompany troops from Washington Barracks D C First Lieut Frank T Woodbury Plattsburg Barracks N Y to accompany troops from that post First Lieut Compton Wilson Fort Howard. Md First Lieut I W Patton Fort Hamilton N Y to accompany troops from that post to

Gainesville, then to proceed to Maneuver Camp No 1 First Lieut William Roberts Fort Caswell, N C First Lieut Robert M Thornburgh Fort Warren Mass, First Lieut C C Whitcomb, Fort McKinley, Me, First Lieut Park Howell Fort McPherson, Ga to accompany troops from that post First Lieut Percy L Jones, Fort Monroe Va, First Lieut Howard H Bailly Plattsburg Barracks, N Y, to accompany troops from that post

To the Second Provisional Division near Thoroughfare Va Major Henry C Fisher, Camp Geo H Thomas Ga, to accompany troops from that camp Capt H M Hallock Fort Porter N Y to accompany troops from that post Capt Ira A Shimer, Fort Niagara N Y to accompany troops from Madison Barracks, N Y to which place he will proceed in due time Capt Douglas F Duval Fort Williams Me First Lieut Walter Cox Fort Banks Mass First Lieut A W Williams, Fort Greble R I, to accompany troops from Fort Jay N Y First Lieut Wm H Brooks Fort Washington, First Lieut Reuben B Miller, Fort Screven Ga

Stallman George I contract dental surgeon Kuhn Charles F and Reddy Joseph W contract surgeons sailed August 1 from San Francisco on the transport *Logan* for Manila P I The first named has just entered the service the other two are returning from leaves of absence spent in the United States

Vaughan Milton contract surgeon relieved from further duty in the Philippine Division and directed to proceed at the expiration of his present leave of absence from Little Rock Ark to Fort Douglas Utah for duty

Foulkes Pruce contract surgeon returned July 28 to his proper station Vancouver Barracks Wash from temporary duty at American Lake Wash

Navy Changes.

Changes in the medical corps, U S Navy for the two weeks ending Aug 13 1904

Grunwell A G surgeon ordered to the *Dixie*

McDonnold P E P A surgeon commissioned P A surgeon with rank of lieutenant from July 2, 1904

McDonnell W N A A surgeon detached from the *Marcellus* and ordered to the Naval Recruiting Rendezvous Baltimore Md

Dabney V A A surgeon detached from the Naval Recruiting Party No 3 and ordered home to wait orders

Dean R C medical director detached from duty as a member of the Naval Retiring Board Washington D C and ordered home

Duncan G F A A surgeon detached from the Naval Recruiting Party No 2 and ordered to the *Franklin*

Janney W H A A surgeon detached from Naval Recruiting Party No 1 and ordered to the *Marcellus*

Lung G A surgeon detached from the *Hancock* and ordered to the *Kentucky*

Guest M S P A surgeon detached from the *Kentucky* and ordered to Washington, D C Sept 1 for examination for promotion and then to wait orders

Asserson F A, asst surgeon detached from the *Kentucky* and ordered home to wait orders

Dessez P T asst surgeon detached from the Naval Academy and ordered to the *Kentucky*

Marine-Hospital Service

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ended Aug 4 1904

Purviance Geo asst surgeon general granted extension of leave of absence from June 20 to June 30 inclusive

Banks C E surgeon granted leave of absence for one month and fifteen days from August 12

Sprague E K P A surgeon to report to Surgeon G W Stoner Immigration Depot New York, for duty

Greene J B P A surgeon on the return of Asst surgeon H McG Robertson relieved from duty at New York (Stapleton) and directed to proceed to Fort Stanton as inspector of unserviceable property On completion of this duty to remain at Fort Stanton and await further orders

Lavinder, C H P A. surgeon relieved from duty at Delaware Breakwater Quarantine and directed to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters

Foster M H P A surgeon granted leave of absence for fourteen days

Trotter F E asst surgeon granted leave of absence for ten days from August 5

Fahrenburg L P H asst surgeon to assume command of service at Delaware Breakwater Quarantine, relieving P A Surgeon C H Lavinder

Salmon T W asst surgeon granted leave of absence for seven days from Aug 2 1904, under Paragraph 191 of the Regulations

Porter J Y sanitary inspector to proceed to Havana Cuba for special temporary duty and to inspect the disinfecting steamer *Senator*

Brice J W A A surgeon granted leave of absence for thirty days from September 20

Foster, J P C A A surgeon granted leave of absence for thirty days from August 1

Stuart A F A A surgeon Department letter of June 22 granting leave of absence for thirty days from July 1 amended to read twenty one days

Rogers, Edward pharmacist granted leave of absence for sixteen days from August 5

Troxler R F pharmacist, granted leave of absence for thirty days from September 5

Neves Geo pharmacist granted leave of absence for thirty days from August 27

BOARD CONVENED

Board to meet at Port Townsend Wash for the physical examination of candidates for second assistant engineer in the Revenue Cutter Service Detail for the board P A Surgeon J H Oakley chairman A A Surgeon W F Patrie recorder

PROMOTIONS

Asst Surgeons T B McClintic, Joseph Goldberger and W A Korn commissioned (recess) as P A surgeons to rank as such from July 28 July 27 and July 27 1904 respectively

Health Reports

The following cases of smallpox yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended Aug 12, 1904

SMALLPOX—UNITED STATES

District of Columbia Washington, July 30 Aug 6 1 case.
Illinois Peoria July 1 31 4 cases
Louisiana New Orleans July 31 Aug 6, 1 case
Massachusetts North Adams July 31 Aug 6, 2 cases 1 death
Michigan At 72 places July 23 30, present
Missouri St Louis July 31 Aug 6 2 cases
New Hampshire Manchester July 31 Aug 6 1 case
New York New York City July 31 Aug 6 3 cases
Ohio Zanesville July 2 30 3 cases
Pennsylvania Johnstown July 31 Aug 6 1 case
Tennessee Nashville July 31 Aug 6 1 case
Wisconsin Milwaukee July 31 Aug 6, 1 case

SMALLPOX—FOREIGN

Brazil Rio de Janeiro June 26 July 3 200 cases 117 deaths
Canada Winnipeg, July 23 30 1 death
Colombia Barranquilla July 18 24 1 death
France Marseilles June 1 30 3 deaths Paris, July 16-23 17 cases 1 death Rouen June 1 30 3 deaths
Great Britain Glasgow July 22 29, 7 cases 2 deaths Liverpool July 16 30 6 cases July 9 16 London 7 cases Manchester 2 cases Newcastle on Tyne 10 cases 1 death July 16-23 Nottingham 2 cases Sheffield 1 case
India Bombay, June 28 July 12 24 cases
Italy Palermo July 16 23 1 death
Mexico City of Mexico July 17 24 2 cases 2 deaths
Russia Moscow July 9 16 5 cases 7 deaths Odessa July 16-23 1 case Warsaw June 25 July 2, 20 deaths
Turkey Constantinople July 17 24 10 deaths

YELLOW FEVER

Brazil Rio de Janeiro June 26 July 3 3 cases 1 death
Mexico July 24 30 Merida 1 case 1 death Tehuantepec 4 cases, 1 death, Vera Cruz 1 case

CHOLERA

Persia Teheran July 9 severe epidemic
Straits Settlements Singapore June 10 18 1 death
Turkey June 30 Bagdad 3 cases 1 death villages 404 deaths

PLAGUE—INSULAR

Hawaii Honolulu Aug 4 1 death

PLAGUE—FOREIGN

Egypt July 2 9 31 cases 15 deaths
Formosa June 25 July 2 55 cases 37 deaths
India Bombay June 22 July 12 73 deaths
Peru June 25 July 2 Callao 2 deaths Lima 4 cases 1 death

Society Proceedings.

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION Portland, Ore, July 11 14 1905

Academy of Ophthalmology and Otolaryngology Denver, August 24 26
Medical Society of the Missouri Valley Council Bluffs Iowa August 25
Oregon State Medical Association Portland August 30 31
Rocky Mountain Interstate Medical Association Denver, Sept 6-7
Wyoming State Medical Society Rawlins, September 13
American Electro-Therapeutic Assn St Louis September 13 15
American Association of Obstetricians and Gynecologists, St Louis, September 13 16
Medical Society of the State of Pennsylvania Pittsburg September 27 29

BRITISH MEDICAL ASSOCIATION

Seventy Second Annual Meeting, held at Oxford, July 26 30, 1904

(Continued from Page 510)

The President's Address

The subject of the address of the president, Dr William Collier, was "The Growth and Development of the Oxford Medical School" He contrasted the present condition with that in 1878, when a correspondent of the *British Medical Journal* wrote a long letter complaining that the study of medicine was completely overlooked at Oxford, that no teaching was being given in the preliminary medical subjects, and that the medical faculty had practically ceased to exist. Dr Collier stated that as a result of the controversy following this letter the subject was taken up by the British Medical Association and the present medical school was established

Dr Collier spoke of the influence of the university student on other medical students, referring to the time when any outbreak of rowdyism in London was attributed to medical students, and ascribing the change for the better to the influence of university graduates who are generally older men with a more settled purpose in life and a clearer and better idea of what constitutes good and bad form He pointed out that the standard of general culture is distinctly raised by a university education and correspondingly the status of the medical profession

Dr Collier referred to famous men who had been associated with Oxford in the past notably Linacre founder of the Linacre professorship of comparative anatomy, Harvey the discoverer of the circulation of the blood Willis famous for his description of the anatomy of the brain particularly the circle of Willis Wren the architect of St Paul's Cathedral who made the drawings to illustrate Dr Willis' work on the anatomy of the brain Radcliffe who left the bulk of his estate to the college to build a library which is now known as the Radcliffe Library Sydenham and many others

In conclusion Dr Collier spoke of the previous meetings of the association in Oxford the first of which was in 1835 and was attended by 300 members The second meeting at Oxford was in 1852 and the third in 1868 He spoke of the influence of the association not only in Great Britain but throughout the empire the association having branches in India and the colonies He reminded the association that its power for good was due to the united and unremitting labors of many workers and that no hasty nor unwise action must be allowed to jeopardize its further development

Report of Hospital Committee

The following report of the hospital committee was adopted 1 Poverty and sickness shall be the conditions for admission of all patients for hospital treatment 2 No charge for treatment shall be made though voluntary contributions may be accepted 3 The production of subscribers letters shall cease to be compulsory and that where possible the system shall be abolished 4 Some means of investigation into the circumstances of applicants for relief shall be employed in all medical charities, and where possible a special officer shall be appointed for this work 5 Except in emergencies before a patient is admitted into any hospital evidence shall be obtained on two points, (a) that the patient is not in a position to pay for treatment, (b) that the case is, from the hospital point of view, suitable for treatment 6 All cases of serious accident and severe sudden illness shall be attended on their first application, and if deemed eligible for further treatment shall be referred to the appropriate department of the hospital but if ineligible shall be referred for treatment elsewhere 7 All cases of trivial accident or illness deemed ineligible for the out patient department shall after being attended to be referred for treatment elsewhere 8 It is inexpedient that any patient be able to leave the hospital without having been seen by a registered medical practitioner 9 The number of new cases seen on one day by an honorary medical officer be limited 10 Special hospitals shall treat only cases strictly within the scope of their work 11 In all hospitals there shall be an age limit for the retirement of medical officers

Address in Medicine

The address in medicine was delivered by Sir William Selby Church He spoke of the advance made in the different branches of medicine since the last meeting of the association at Oxford in 1868 especially in bacteriology physiology and tropical medicine He spoke of the discoveries which have been made in the agglutinative, bactericidal and hemolytic properties of the blood serum, and of the advances which have been made in the field of serum therapy

He spoke of the advance in physiologic knowledge which was attained with the recognition of the connection between myxedema and the diseased conditions of the thyroid gland He also spoke of the internal secretions of other glands such as the suprarenal and in connection with this mentioned the researches of Schäfer and Oliver which have proved the physiologic action of the extract of the suprarenal glands to be both active and powerful

In regard to tropical medicine he spoke of the work which has been done in malaria and yellow fever, the discoveries of Castelani, Bruce and Nabarro in the African sleeping sickness and the experiments of Leishman, Donovan Ross and Christophers which tend to show that the chronically enlarged spleen found in malaria is probably due to some other micro-organism

The active part taken by the association in securing public health legislation and laws regulating the practice of medicine in the British Isles was described He also spoke of the bill which the association has drawn up providing for increased supervision of the sale of foods and drugs the necessity for proper sanitation and hygiene in villages and small towns, as well as in larger cities

He spoke at some length on the necessity for pure air in dwellings and condemned the modern style of architecture which crowded houses and apartments together and did not permit free access of air to the dwellings In conclusion he quoted statistics to prove that the rate of mortality is in direct proportion to the density of the population

Treatment of Chronic Renal Disease.

At the section on medicine Dr Hale White London, spoke on "The Treatment of Chronic Renal Disease" He said that treatment might be divided into the treatment of particular symptoms and treatment employed owing to theoretical views of the nature of the disease He said that albuminuria is often treated, but it is forgotten that the mere presence of albumin in the urine is of itself of no importance except as an aid to diagnosis It is so frequent in heart disease, fevers, etc, that half the patients who have albuminuria have not Bright's disease, yet it is never treated in these conditions Many persons pass albumin in the urine for 20 years or more without harm The loss of proteid in Bright's disease is trifling and can easily be counterbalanced by a little more food Frequently patients are injured by the alarm engendered by frequent examinations of the urine

Diet —A milk diet which is chiefly relied on to reduce the albumin, fails to do so and injures the patient Some patients have a high tension pulse and a hypertrophied heart In such cases the tension must be reduced by restricting exercise, regulating the bowels, avoiding alcohol, meat extractives, excess of meat food and the drinking of much fluid, and in such cases digitalis should never be ordered In another class, where the pulse tension is low and the heart weak, the mistake is made of keeping patients on a limited milk diet in the hope of relieving the kidneys, with the result that the patients become enfeebled and the heart fails, such patients improve on an ordinary diet A patient with chronic nephritis is often injured by starvation Some patients are kept too much in bed and the body becomes flabby On the other hand, acute and subacute cases are not kept in bed sufficiently some take too little exercise and become fat giving the heart more work It is best for patients to drink a normal quantity of fluid.

To sum up, keep vascular tension normal without the aid of drugs Slight edema is best treated by posture, limiting the fluid drunk and keeping the bowels regular The most efficient way to get rid of edema is by Southey's tubes, but antiseptic precautions are necessary

Medicinal Treatment —Such drugs as cantharides must be used carefully blisters are often applied incautiously Drugs which are excreted with difficulty such as lead and digitalis must be given with care As to morphia, small doses are sometimes fatal therefore it should rarely be given Sulphonal and trional should not be given for they may induce hematoporphyrinuria Alcohol in moderate quantities will not injure the kidneys but it should not be given if the pulse tension is high

Granular kidney is frequently treated too zealously, and the patient injured by starvation We do not know for certain that any ordinary article of diet is harmful I give the patient good plain ordinary foods, but exclude sauces and condiments which may possibly cause harm There is nothing to show that red meat is more injurious than white In chronic parenchymatous nephritis similar mistakes are made until the patient loathes his farinaceous diet. His last days may be rendered happier by removing useless restrictions Tea, tobacco and coffee should be used with moderation in consequence of then rendering the pulse irregular Water is given excessively inducing hydremic plethora and injuring the heart

In a few cases of tubal nephritis without edema an extra pint of water may be given daily to wash away the dead epithelium We do not know the nature of the poison in uremia There is a vague belief that it is due to nitrogenous retention, but it may develop on a farinaceous diet The only treatment is to help all the excretions It is of little use trying to stimulate the kidneys Give plenty of hot fluid such as weak tea or transfuse with a saline solution Pilocarpin may do harm Severe convulsions may be relieved by inhalation of chloroform The skin may be stimulated, but excessive sweating should be avoided A warm bath may be given every night

Climate—Egypt is the ideal climate For a few an occasional Turkish bath may be allowed Keep the skin warm by means of woolen underclothing We should not be too quick to check diarrhea and vomiting which may be eliminative It should be remembered that the patients bear operation badly

DISCUSSION

Professor Van Noorden maintained that neither physiologic nor clinical evidence showed that white meat has any advantages over red meat He has found it unnecessary to give great quantities of fluid which injures the heart Systematic muscular exercises are very useful In Germany it used to be the custom to forbid all exercise but more good can be done by the systematic training of the muscles At first the albumin may increase but it then falls to perhaps less than before The great improvement however is in the heart and the sense of health and strength is restored He prefers health resorts where there are carbonic acid baths and saline waters for drinking A most dangerous complication is obesity, which leads to heart failure It should be treated carefully and slowly reduced A milk diet is often harmful by inundating the body with too much fluid

Sir John Moore Dublin pointed out the value of open air treatment as the lungs have an eliminatory function He recommended Sicily as a health resort Oxygen inhalations are useful especially in the so called uremic asthma The drowsiness of uremic coma often yields to 20 grain doses of benzoated soda Urotropin is useful but must be given with care Dropsy often acts as an eliminant The state of the heart is the paramount factor in prognosis Strychnin and digitalis are useful if the heart is failing The tendency of digitalis to raise arterial tension may be overcome by giving it with nitrites or iodids Pilocarpin is a treacherous drug it may ‘drown the patient by the bronchial effusion it induces

Treatment of Tuberculous Pleural Effusion and Pneumothorax.

Dr William Osler Baltimore spoke on the Treatment of Tuberculous Pleural Effusion and Pneumothorax He expressed the opinion that a large majority of all cases of pleurisy with effusion are tuberculous The following are his reasons 1 The postmortem examination in cases of sudden death in pleurisy almost always reveals tuberculosis Even in traumatic pleurisy tuberculosis is often found 2 Healed tuberculosis is often found in patients dying from other causes than tuberculosis 3 Cytologic investigations show the small mononuclear leucocyte almost characteristic of pleurisy Centrifugalization may reveal the tubercle bacillus Inoculation is still more important, and has shown it in 59 per cent 4 There is frequently a tuberculous focus in other parts of the body 5 In a percentage varying from 25 to 35 the patient subsequently becomes tuberculous 6 A characteristic tuberculin reaction has been obtained in a large number of cases

Treatment—For treatment it is best to assume all cases to be tuberculosis For discussion he proposed the value of early and repeated aspiration in acute cases Previously it has been merely an adjunct in treatment Lately there has been a tendency to tap earlier and not to wait for the fever to subside In a large number of cases a cure is obtained In 20 cases treated by him recovery took place in all In some aspiration was performed as often as 4 times Of these cases, 7 were proved to be tuberculous The removal of the fluid sometimes appears to be directly curative It prevents the formation of dense adhesions and certainly does no harm Pneumothorax has followed tapping in a few, but in none of his cases was the pleurisy acute The chronic cases present the most difficulty If tapping fails West's suggestion of incision should be adopted Drug treatment, blisters and the “thirst cure have only a limited field of utility As soon as the fever disappears systematic pulmonary gymnastics should be carried out Careful after treatment to establish the general health is important

The treatment of pneumothorax is very unsatisfactory in consequence of the concurrent pulmonary lesions In a large number of cases it is best to do nothing “*Pneumothorax acutissima*’ demands immediate operation to convert a valvular into an open pneumothorax A group of chronic cases demands the operation recommended by West

DISCUSSION

Dr G A Gibson, Edinburgh, expressed his difficulty in diagnosing tuberculosis He believes that in a large number of cases the diplococcus of rheumatism would be found in the urine He had found tuberculin useful in the treatment of some cases

Mr Stanley Boyd, London, thought that in cases of serous fluid, when repeated tapping failed, it would be best to drain the pleural cavity with a fine canula But he admitted the danger of creating a pyothorax

Dr. Samuel West did not think that tapping materially influenced the course of the case He condemned modified Estlander's operation as futile

Pathologic Chemistry of Gout

Professor Van Noorden spoke on the Pathologic Chemistry of Gout He gave a resume of recent progress and discussed the oxygenation processes the nitrogen metabolism, the influence of gout on the functions of the stomach and intestines, the peculiarities of the absorption of nitrogenous substances and the condition of uric acid in the urine, blood and tissues All these pathologic facts have to be combined in a theory, but are far from sufficient to explain the clinical phenomena He put forward a theory which combines his own, published 12 years ago and a new one recently published by Murkowski

Treatment—Food containing excess of purins should be avoided Alcohol is injurious because it renders the elimination of uric acid difficult and causes retention Remedies which increase the excretion of uric acid must be given Various substances were tested Salicylic acid is apparently the most powerful but it is a dangerous remedy in gout Alkalies are utterly useless though they are excellent in nephrolithiasis In gout they cause retention of uric acid The pure alkalies and Vichy and other mineral waters were tested On the other hand the increase of the renal excretion of uric acid produced by saline solutions and certain saline springs was very remarkable The Homburg Elizabeth spring seemed to be the most powerful Under it the excretion of uric acid often rose from 25 to 30 per cent and remained at this height for a considerable period—a confirmation of an old empiric fact This spring has long been a renowned resort for gout

(To be continued)

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Minutes of the Fourteenth Annual Meeting held at Atlantic City, N J, June 6 1904

(Concluded from Page 513)

Dr P Richard Taylor moved that the new constitution adopted at New Orleans become operative on July 1 1907 instead of July 1, 1905 Seconded

Dr Means moved that the motion be laid on the table Carried

Committee on President's Address

Dr Egbert, on behalf of the committee on president's address reported as follows

Your committee recommends that the thanks of the association be tendered to President Guthrie for his most able and

excellent address, and that it be printed and a copy sent to each member of the association It recommends further that the various suggestions contained therein be referred to the committee on by laws, with the request that they give the same due consideration and report to the association at an early date (Signed) WM H WATHEN
SAMUEL C JAMES
SENECA EGBERT

Dr Means moved that the secretary be authorized to send to each member of the association a copy of the application blank presented as a part of the secretary's report and that the proper officer shall fill in the necessary data and return the blank to the secretary on or before November 1 1904

Seconded and carried

Dr H B Ward asked for a ruling by the chair with reference to that portion of the report of the special committee on by laws recommending the expenditure of $400 annually for the visitation of colleges Whether the adoption of the report was to be considered authority for the expenditure of the money

The chair ruled that that was the sense of the association that an appropriation for that amount is to be made

Report of Auditing Committee

The auditing committee, through Dr Egbert, reported as follows

Your committee, appointed to examine the report of the secretary treasurer, beg leave to report that they have audited the financial statement, and find it correct They also wish to compliment the secretary treasurer on the fullness of his report, and the important work done by him during the year and that the association tender him a vote of thanks for his efficient services

The report was accepted

Dr J A Dibrell moved that the secretary be authorized to accept resignations from membership Seconded and carried

Dr S C James asked what recourse if any outside of the law colleges have to obtain the admission of their graduates to certain territories of the United States from which they are excluded absolutely at the present time New Mexico bars the graduates of every college in the association except three. They will not permit the graduates from any institution that gives students conditions to enter their territory to practice medicine

No information on this point could be given and the matter was passed

Officers Elected

The nominating committee then reported as follows President, Samuel C James, Kansas City Mo first vice president R. Dorsey Coale, Washington, D C, second vice president R. H Whitehead, Chapel Hill N C secretary treasurer Fred C Zapffe 1764 Lexington Street, Chicago, judicial council, Wm J Means, 715 North High Street, Columbus Ohio chairman, term expires 1907, Parks Ritchie, St Paul, Minn term expires 1907, Geo M Kober, Washington, D C term expires 1906, Thos H Hawkins, Denver, Colo, term expires 1905

Dr Guthrie introduced the president elect, Dr James who addressed the association in a few well chosen words and announced that the next annual meeting would be held Monday June 5, 1905 at the place of meeting of the American Medical Association

The association then adjourned

J R. GUTHRIE, President
FRED C ZAPFFE Secretary

List of Members

ARKANSAS

Arkansas University Medical Department, Little Rock

CALIFORNIA

College of Medicine University of Southern California Los Angeles

University of California Medical Department, San Francisco

COLORADO

Colorado School of Medicine University of Colorado, Boulder

Denver and Gross College of Medicine, Medical Department of the University of Denver Denver

CONNECTICUT

Yale University Department of Medicine (Yale Medical School) New Haven

DISTRICT OF COLUMBIA

Columbian University Department of Medicine, Washington

Georgetown University School of Medicine, Washington

Howard University Medical Department Washington

ILLINOIS

American Medical Missionary College, Battle Creek, Mich, and Chicago

College of Physicians and Surgeons, College of Medicine of the University of Illinois, Chicago

Illinois Medical College, Chicago

Northwestern University Medical School, Chicago

Rush Medical College (in affiliation with University of Chicago), Chicago

INDIANA

Fort Wayne College of Medicine, Ft Wayne

Central College of Physicians and Surgeons, Indianapolis

Medical College of Indiana University of Indianapolis

IOWA

Drake University College of Medicine, Des Moines

College of Medicine University of Iowa Iowa City

Keokuk Medical College, College of Physicians and Surgeons Keokuk

Sioux City College of Medicine, Sioux City

KANSAS

Kansas Medical College, Medical Department of Washburne College, Topeka

School of Medicine University of Kansas, Lawrence

KENTUCKY

Hospital College of Medicine, Louisville.

Kentucky School of Medicine, Louisville

Kentucky University Medical Department Louisville

LOUISIANA

Flint Medical College Medical Department New Orleans University, New Orleans

MARYLAND

Baltimore Medical College, Baltimore

College of Physicians and Surgeons, Baltimore

Johns Hopkins University Medical Department, Baltimore

University of Maryland School of Medicine Baltimore

Woman's Medical College, Baltimore

MASSACHUSETTS

College of Physicians and Surgeons Boston

MICHIGAN

Detroit College of Medicine Detroit

Michigan College of Medicine and Surgery, Detroit

University of Michigan Department of Medicine and Surgery, Ann Arbor

MINNESOTA

Hamline University College of Medicine, Minneapolis.

College of Medicine and Surgery of the University of Minnesota, Minneapolis

MISSISSIPPI

Medical Department University of Mississippi, Oxford

MISSOURI

University of Missouri Department of Medicine, Columbia

Kansas City Medical College, Kansas City

University Medical College Kansas City

Marion Sims Beaumont College of Medicine, Medical Department St Louis University, St Louis

St Louis College of Physicians and Surgeons St Louis

NEBRASKA

John A Creighton Medical College, Medical Department of Creighton University Omaha

University of Nebraska College of Medicine, Lincoln and Omaha

NEW YORK

University of Buffalo Medical Department, Buffalo

Syracuse University College of Medicine, Syracuse

NORTH CAROLINA

University of North Carolina Medical Department, Raleigh and Chapel Hill

Wake Forest College School of Medicine Wake Forest

OHIO

Medical College of Ohio Medical Department University of Cincinnati, Cincinnati

Miami Medical College, Cincinnati

Cleveland College of Physicians and Surgeons Medical Department Ohio

Wesleyan University Cleveland

Western Reserve University Medical College, Cleveland

Ohio Medical University, Columbus

Starling Medical College, Columbus

Toledo Medical College, Toledo

OREGON

University of Oregon Medical Department, Portland

Willamette University Medical Department Salem

PENNSYLVANIA

Medico Chirurgical College of Philadelphia, Philadelphia

Woman's Medical College of Pennsylvania Philadelphia

Western Pennsylvania Medical College Medical Department Western University of Pennsylvania

TENNESSEE

Meharry Medical College, Medical Department Walden University, Nashville

VIRGINIA

University College of Medicine, Richmond Va

WEST VIRGINIA

University of West Virginia Medical Department, Morgantown

WISCONSIN

Milwaukee Medical College, Milwaukee, Wis

Wisconsin College of Physicians and Surgeons Milwaukee

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer]

Gout

Satterthwaite, in the *Med Record*, gives the following method of treating acute gout Elevate the inflamed part and protect from the weight of the bedclothes by a cradle Lead and opium wash may be used, applied on absorbent cotton, covered with oil silk, and renewed every four hours Or a saturated solution of bicarbonate of soda Or

℞	Guaiacol		
	Olei gaultheriæ āā	ʒiv	15
	Olei oliva	℥ii	60

M Sig Apply locally to inflamed part

Or, a more elegant mixture he believed to be

℞	Menthol	℥i	30
	Alcoholis	℥iv	120
	Glycerini		
	Aquæ laurocerasi, āā	℥i	30

M Sig Apply locally to the inflamed part

The patient may be placed in a tub at 98 to 100 F kept there for fifteen minutes, douched with water at 102 F for another fifteen minutes Afterward the flabby parts are massaged and the inflamed parts are left untouched Administer a mercurial purge followed by a saline cathartic The wine of colchicum should be given in from 15 to 20 minim doses every four hours The dose should be lessened as soon as possible because of the disturbance of the gastrointestinal tract, which follows large doses or the prolonged use of the drug Sodium salicylate or salicylic acid should alternate with the colchicum every four hours If the salicylates are not well borne he suggests the citrate of potassium in 30 to 60 grain doses every four hours

Following the mercurial purge he suggests a cholagogue and his favorite is

R	Resin podophyllin	gr ss	03
	Ext colocynth		
	Ext hyoscyami, āā	gr i	06
	Ext nucis vom	gr ss	03

M Ft pil No i Sig One at night if necessary

For drinking purposes he recommends the waters containing carbonate of lime, of soda, of potash, and lithia The diet during the acute stage should be, with the exception of toast and butter, a liquid diet The treatment of the other and more chronic forms of gout consists chiefly in the free use of water, the free evacuations from the bowels, the administration of the iodids and to abort an attack the use of colchicum, the salicylates or the alkaline carbonates The author believes that the patient does better on a dietary of food that he has found to be suitable by personal experience rather than the usual dietary recommended

Luff, in the *London Practitioner*, treats at length on the subject of diet in gouty states He concludes that no routine method can be adopted which is suitable to all cases, but that consideration should be taken of the nutritional conditions of the patient, habits, environs, likes and dislikes, and, as Pawlow has shown that a habit of digesting with ease certain kinds of food is acquired by the stomach which learns to secrete a gastric juice appropriate to it, for this reason certain changes of food may interfere materially with the function of the digestive apparatus A further conclusion is that food stuffs must be used which are not only readily utilized in the system, but must be readily attacked by the gastric juices, therefore the simplicity of meals is more important than the exclusion of certain articles of diet

The following is the diet recommended by Dr Luff for his gouty patients

Morning One half to one pint of hot water, flavored with a bit of lemon peel, taken slowly immediately on rising

Breakfast A selection may be made from the following articles of diet Porridge and milk, whiting, sole, or plaice, fat bacon (grilled), eggs cooked in various ways (never hard boiled) dry toast, or zweiback bread thinly buttered and tea infused for three minutes and strained

Lunch and dinner Vegetable purées, soups made by boiling beef or mutton bones with vegetables and subsequently removing the fat The soups should not be thickened with the farinaceous substances The varieties of fish most suitable are whiting, sole, turbot, plaice, smelt, flounder, gray mullet and fresh haddock The birds that are admissible as articles of diet are chicken, pheasant, turkey and game (not high) Beef, mutton and lamb should be taken at only one meal a day and then in very moderate quantity Two vegetables may be taken at both lunch and dinner, spinach, Brussels sprouts, French beans, winter cabbage, turnip tops, turnips and celery Potatoes may be taken in moderate quantities Stewed fruits, or baked apples, or pears may be taken every day at one meal Green vegetables, as salads, without oily dressings may be allowed A simple savory may be taken at the end of dinner, or a small quantity of cheese, if well masticated and free from molds

Night Half to one pint of hot water flavored with lemon peel should be slowly sipped before retiring

Intestinal Colic

Merck's Archives recommends the following

℞	Spiritus chloroformi	℥ii	60	
	Tincturæ belladonnæ	ʒiiss	10	
	Dionin	gr v		30
	Tinctura cardamon co q s ad	℥iv	120	

M Sig Teaspoonful in water every half hour for adults

Metrorrhagia from Fibroma

Huchard, in the *Med Press*, discusses some of the points in the treatment of this condition from a medical standpoint before operative treatment is feasible.

Hot irrigations with pure boiled water at 113 F, using from three to five quarts, repeated twice or three times daily Compresses of salt water are also to be used A towel steeped in cold salt water (9 oz to a quart of water) is applied to the abdomen and covered with a thick layer of wadding with oiled silk or gutta percha left over all The compress should be kept on at first two hours, gradually increasing the time until it can be borne a whole night The treatment lasts one month and is renewed three or four times a year

For medicinal use he recommends the following

℞	Ext hydrastis canadensis fl	℥i	30	
	Ergotin	ʒi	4	

M Sig Twenty drops three or four times a day or

℞	Hydrastininae hydrochloratis	gr x		65
	Aquae dest	ʒiiss	10	

M Sig Inject one syringe (gr i) two or three days in succession, or

℞	Quinin hydrobromatis	gr ii		12
	Hydrastininae hydrochloratis	gr ss		03
	Ergotin	gr i		06

M ft pil No i Sig Two such pills daily

These pills can be prescribed for ten days The ten following days recourse can be had to cannabis indica or adrenalin The latter has frequently succeeded—ten drops of the 1 to 1 000 solution morning and evening Sometimes accidents occur sensation of anguish and cardiac arrhythmia The treatment should be carefully watched and suspended on the slightest unfavorable symptom

Intestinal Fermentation and Diarrhea

Dr Friedrich Grosse in a communication, gives the following as his favorite prescription for this condition

℞	Bismuthi salicylatis		
	Benzonaphthol		
	Sodii benzoatis aa	gr xlv	3 4
	Syrupi simplici	ʒv	20
	Aquae q s ad	℥iv	120

M. Sig One teaspoonful every three to four hours

In case of diarrhea add or substitute tannigen ʒii (8 grams) for the benzonaphthol in the above prescription

Coryza

Hirtz in *Le Mois Therapeutique* recommends the following dusting powder in the treatment of coryza

℞	Quinin sulphatis			
	Bismuthi salicylatis āā	gr viii		50
	Acidi borici	gr xv	1	
	Amyli	ʒiiss	10	

M Sig Use as insufflation in nose three times daily

Subacute Gastritis

Wood, in the *Therapeutic Review*, discusses the treatment of this condition under the following three heads

Habits—Regularity in the time of eating thorough mastication The value of chewing the food depends not solely on the mechanical subdivision of the mass, but also on the complete ensalivation Salivary digestion in the stomach plays a part hardly secondary to that of peptic digestion

Water—Water should be avoided during meal time as much as possible, it dilutes the digestive secretions, and enables the food to be swallowed without sufficient mastication

Diet—Of the starchy foods those that like toast, stale or pulled bread require considerable mastication are to be preferred Sugar and fats are best reduced to a minimum Of the albuminous foods, well cooked mutton or beef or the fish foods such as rock fish and oysters, are generally permissible Pork, veal and rich game foods should be avoided

Drugs—Stimulation is closely allied to irritation, and where there is a true inflammatory condition the stimulant remedies are always contraindicated such as bitter tonics and stimulating aromatics In cases where there is a marked failure of the hydrochloric acid this drug may be given both on account of its action as a digestant and its antiseptic action

Perhaps even more efficient is the nitrohydrochloric acid which should be prescribed undiluted, since it rapidly deteriorates after dilution Of this, five drops may be given in a half tumbler of water after meals Of the artificial digestants, such as pepsin, pancreatin and the various vegetable ferments the best that can be said of them is that they are comparatively harmless

The one drug which has proved of most value in the writer's experience in the treatment of these cases is the bicarbonate of soda It neutralizes the lactic acid when present, thus relieving the distressing pyrosis, it enables the salivary ferment to act by rendering the gastric contents alkaline, and, finally, it has been most abundantly proven to be one of the most effective stimulants of the secretion of hydrochoric acid It is best given before meals The following prescription has given the author good results where there is much irritation

℞	Bismuthi subnitratis	ʒi	4	
	Sodii bicarb	ʒiii	12	
	Acidi carbolici	gr xv	1	
	Spiritus menth pip	m xx	1	30
	Mucilag acaciae q s ad	℥ii	60	

M Ft emulsio Sig Teaspoonful before each meal

Acute Rheumatism

A Martinet, in *Nouveaux Remedes*, states that a combination of antipyrin and sodium salicylate is remarkably efficacious in this disease On account of the pasty mass it is impossible to dispense in capsules, and, moreover the combination is irritating to the stomach The following is the formula

℞	Antipyrin	gr lxxv	5
	Sodii bicarbonatis	ʒiss	6
	Sodii salicylatis		
	Aquae dest āā	ʒiiss	10
	Rum	℥i	30
	Syrupi aurantii cort	℥v	150

M Sig A tablespoonful as required

Medicolegal.

Liability Between Towns in Contagious Disease Cases—The Supreme Judicial Court of Maine holds, in the case of the Inhabitants of Machias vs the Inhabitants of Wesley, that the right of towns to recover expenses incurred in cases of contagious diseases is governed by statute The fact that the statute gives to the overseers of the poor of the oldest incorporated adjoining town the care of persons found needing relief in unincorporated places does not make such adjoining town liable to reimburse another town for the expenses incured in relieving such destitute person The result is the same if the expenses were incurred by the local board of health

Woman's Charge to Physician Against Man Not Privileged—The First Appellate Division of the Supreme Court of New York says, in the case of People vs Abrahams, where it was sought to fix the paternity of a child born on the 15th of May that a practicing physician with whom the mother had a consultation in the preceding September or October was asked In that conversation, did she make any charge against any person as being the cause of her condition at that time?" This was objected to and the objection sustained It was sought to sustain the ruling on the ground that the answer was not admissible under section 834 of the New York Code of Civil Procedure which provides A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in a professional capacity and which was necessary to enable him to act in that capacity" The testimony here sought to be elicited was not information acquired by the physician which was necessary to enable him to act as such It needs no argument to demonstrate such fact and its exclusion may have done great injustice to the accused He testified that he never met the mother until the 15th of October The question called for a statement made by her in September or October and if she stated to the physician at that time that some other person than the accused was the cause of her condition it was possible that the court would have reached a different conclusion than it did adjudging the accused to be the father of the child In any event the testimony was admissible and for the error committed in excluding it a new trial must be had

Expert Evidence on Physical Ability to Commit Crime—The Supreme Court of Alabama says that it understood certain questions asked a physician in the homicide case of Dixon vs State to call for the professional opinion of the witness whether a person suffering from malaria with bilious complications, and in a high fever at 4 p m in the *afternoon* could walk twelve miles and go through the ordeal of killing a man overnight, and be free from fever and of normal pulse early the next morning This was, of course a matter for expert opinion Neither the jury nor the court could know what effect the physical exertion of walking so great a distance and the mental excitement incident to doing murder would have on a man in the accused's condition A physician would know whether such conduct on the part of the accused would likely aggravate his fever over night Assuming an opinion that it would, the fact that the accused had *no fever* the next morning taken in connection with the opinion would be a pertinent circumstance tending to show that the accused had not gone to the victim Gordon's house and killed him It was the same legal question as if it had been shown that the accused was desperately ill on the eve of the homicide—in the last stages of consumption, for instance—and his physician's opinion had been that he could *not have gone to Gordon's, killed him, returned* and himself survived the night and that he was alive the next day Or for further illustration the question stood on the same legal footing as if it had been shown that the accused was critically ill and in a very weak and helpless state and the physician's opinion as to whether he could have walked to and from Gordon's house at all and it seems clear to the court that such expert opinion in either of the cases stated would have *been* competent Therefore it concludes that the Circuit Court erred in sustaining objections to the question calling for the expert opinion of the physician to the effect that the condition of the accused on Sunday afternoon was such that he could not have walked to Gordon's that night and killed him and return to the place where he was stopping and been in the physical condition he was found to be in at 8 o'clock the next *morning*

Court Bound by Physicians' Certificates of Sanity —The Supreme Court of Michigan says that in the case of Grinky vs Durfee Judge of Probate the former petitioned the latter for an order admitting his wife Celia Grinky to an insane asylum At the time set for hearing the judge refused to proceed with the same because two reputable physicians appointed by him to examine said Celia Grinky had reported that she was not insane (One of these reports was not in precise statutory form, but, as it could not be considered a certificate of insanity, its informal character the court says was in its opinion immaterial) Mandamus proceedings were then instituted to compel the judge to proceed to a hearing on said petition an order to show cause was issued a hearing in the mandamus case had and the writ denied In affirming that decision the Supreme Court says that its correctness depended on the construction and effect of Act No 217 of the Public Acts of Michigan of 1903 Section 16 of that act made it the duty of the probate judge, on the filing of Grinky's petition, to fix a date for the hearing thereof and appoint two reputable physicians to make the required examination of the alleged insane person, whose certificate shall be filed with the court on or before such hearing Section 14 of said act provides No person who is a resident of this state shall be held as a public or private patient in any asylum public or private, or in any institution, home or retreat for the care or treatment of the insane except on certificates of insanity and an order for admission as hereinafter provided Section 15 provides Certificates of insanity must be made by two reputable physicians under oath, appointed by the probate court of the county where such alleged insane person resides or is an inhabitant to conduct the examination' Continuing the Supreme Court says that it was urged that notwithstanding the language above quoted, section 16 of the act makes it the duty of the judge of probate, even though the physicians appointed by him certify to sanity to himself determine that question The court can not assent to this construction Under such circumstances a finding of insanity by the probate judge would be a mere idle formality for without the physicians' certificate of insanity the patient could not be held by the asylum authorities The language of section 16 does not indicate the legislative intent to compel the probate court to make an adjudication which would be altogether meaningless On the contrary, the language in that section, above quoted, requiring the certificate 'to be filed with the court on or before such hearing," and the fact that the form of the order therein set forth shall contain a recital of the 'filing the certificates of two legally qualified physicians," indicates to the court that the legislature intended that the probate judge should not proceed when said physicians certify to sanity Nor does the court consider the statute so construed unconstitutional on the ground that the authority of the probate court to make an order for the admission of an alleged insane person to an asylum can not constitutionally be made to depend on a certificate made by non judicial persons It thinks that the most that can be said of such an objection is that the legislature has prescribed a certain rule of evidence, viz it prohibited the making of the order in question unless a certain kind of proof is adduced The authority of the legislature to prescribe this rule might be denied if it deprived any person of a vested right The rule in question certainly does not deprive the alleged insane person of a vested right for it tends to safeguard her rights It deprives no one else of a vested right because it can not be conceived that any one has a vested right to have another committed to an insane asylum Neither does the court agree with the contention that the legislation in question confers on keepers of asylums judicial powers because it prohibits their holding a patient except on certificates of insanity and an order for admission"

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia

August 6

1 Recognition and Treatment of Chronic Myocardial Disease A A Stevens
2 Enlargements of the Liver J N Hall
3 *Splenohepatic Fibrosis with a Remarkable Leucocytosis R K Fletcher and S W Sappington
4 *Pathology of Frambesia P G Woolley
5 Subcapsular Nephrectomy for Pyonephrosis Report of Case and Exhibition of Specimen John DeVinne Singley
6 Surgical Aspect of a Case of Jacksonian Epilepsy G Childs MacDonald
7 Treatment of Chronic Internal Hydrocephalus by Lumbar Puncture H Lowenburg

3 **Splenohepatic Fibrosis with a Remarkable Leucocytosis** —The authors report a case of splenohepatic fibrosis in which it was impossible to make a diagnosis owing to the absence of symptoms distinctive of either group The patient, a woman aged 71 had been ill for ten years The left side of the abdomen began to fill up about eighteen months before she sought medical advice The patient also noted a swelling on the right side, but this did not attract her attention as much as that on the left side The abdomen was slightly tender to touch, and the patient complained of a dragging in the lumbar region and a sense of weight and fullness in the abdomen On examination the spleen was traced from the edge of the ribs on the left side downward 9 cm below the level of the umbilicus in the mid clavicular line The tumor was hard and smooth, with a sharp edge The splenic dullness began at about the eighth rib in the mid axillary line On the right side the liver extended almost as far as the level of the umbilicus The liver flatness began at the fifth interspace The organ was firm and smooth The blood count showed the following Hemoglobin, 48 per cent red cells, 4 100,000, white cells, 136,000 The latter consisted of the following varieties Polymorphonuclear neutrophiles, 89 2, small mononuclears, 1 7, large mononuclears, 2 8 eosinophiles 1 4, basophiles 3 neutrophilic myelocytes, 4 5, eosinophilic myelocytes 0 1 There was slight poikilocytosis slight evidence of polychromatophilia, and only a few normoblasts The last blood count, made one month later, showed a marked decrease in both red and white cells and an increase in the polymorphonuclear cells, the others remaining about the same A microscopic examination of the spleen, liver and kidneys showed a diffuse increase of connective tissue The other organs were normal or only slightly

involved Many arteries throughout the body showed the most extreme degree of sclerosis and calcareous change The authors feel that this is a case in which they can not name the cause nor say that the primary lesion was in the spleen any more than it was in the liver The name given to the disease was used simply to indicate the organs clinically and pathologically prominent and to suggest the variety of morbid change present They offer no explanation for the marked leucocytosis in the absence of any complications

4 **Pathology of Frambesia**—Woolley describes the microscopic appearance of a nodule taken from a case of frambesia There was a marked hyperplastic acanthosis with a round celled infiltration of the underlying and especially of the perivascular connective tissues There was some semblance of epithelioma but the acanthus layer of the skin was thickened and prolonged in strands and columns of bizarre shapes In many places in this hyperplastic epithelium there were larger or smaller islands of connective tissue each apparently representing the path of the blood pressure In the centers of such areas and about the vessel were collections of small round cells and plasma cells But this small celled infiltration was most marked in the larger strands of the submalpighian connective tissue Within these areas there were occasional leucocytes and fibroblasts in varying stages of development A number of plasma cells were present within the round cell accumulation At the site of the ulceration the structure of the lesion was modified by the destructive process All the layers were invaded by a multitude of polymorphonuclear leucocytes the blood vessels were widely dilated and there was a certain amount of superficial degeneration There was no distortion of the arrangement of the layers of the skin In many parts of the section a peculiar appearance was noted suggesting the overlapping scales of the fish This was apparently due to the fact that certain of the acanthus cells took a more intense stain on one side in which the nucleus did not participate There were no giant cells no tubercle bacilli no lepra bacilli and no evidence of cell inclusions

Medical Record, New York.

August 6

8 *Rectal Constipation in Women Grace Peckham Murray
9 *Hypodermic Injection of Strychnin Nitrate in the Treatment of Progressive Muscular Atrophy Sanger Brown
10 The Clinical Features of the Epidemic of Dysentery at Tuckahoe N Y During the Summer of 1902 Oliver L Austin
11 Use of Series Spark Gaps for X ray Work I Weiss
12 New Operation for Pyothorax Spencer Graves
13 Case of Foreign Body Remaining in the Lens of the Eye for Six Years with the Lens Otherwise Clear Frank N Lewis
14 Case of Chronic Fibrinous Bronchitis with Special Reference to the Treatment of This Disease W Moser
15 Fibrils and Ganglion Cells V Biart

8 **Rectal Constipation in Women**—Although this subject is one of the greatest importance Murray believes that it is the least understood and is given the least study It is a question which involves the understanding of diet of occupation of chemistry, as well as the whole process of assimilation, of the mechanical obstructions and inflammatory conditions of the intestinal canal and adjacent structures and the nervous reflex and psychic influences which are more easily recognized in this part of the human system than anywhere else Women are most subject to constipation, especially rectal constipation This may be, but is rarely due to a nervous condition While it may occur as the result of inflammatory conditions such as hemorrhoids, fistulæ and fissures, in very many cases it is mechanical in its origin by reason of the peculiar anatomy of the parts Anteversions, retrodisplacements, neoplasms and periuterine inflammations obstruct the bowel A form of rectal constipation which heretofore has received but little recognition is that which occasions and is the result of the pulling down of the rectovaginal septum, thereby forming a pouch constantly increasing in size, changing the direction of the intra abdominal rectal pressure to that of the vaginal which is at right angles to it, and making it difficult for the rectal sphincters to relax so as to void the contents of the bowel The retention of fecal matter causes rectal irritation and autointoxication In regard to treatment, cathartics may be useful in those cases in which the obstruction is due to inflamed and displaced organs or neoplasms but would be useless in cases where there has been a displacement of the rectovaginal wall In such cases glycerin or gluten suppositories or injections of small amounts of olive oil, glycerin or soothing fluids may be employed The use of daily enemata, as ordinarily practiced, is to be reprehended, from every point of view The use of bougies or dilators may prove beneficial For constipation of purely rectal origin, massage, electricity and measures designed to improve peristaltic action are of no avail The olive oil enemata are especially beneficial The patient, on retiring injects into the rectum the amount of olive oil which can be retained easily during the night The amount varies greatly with different individuals, and with practice one can usually begin with half a cup full, and after a little can retain two thirds or even one cup full The oil is very soothing to the rectum and allays the irritation which has been occasioned by retained feces It is especially beneficial to those who are thin The directions are to take the injections nightly for three weeks, and then every other night for three weeks, and then less often, gradually discontinuing them as may be necessary

9 **Strychnin Nitrate in Progressive Muscular Atrophy**—Brown says that although the hypodermic injection of strychnin nitrate in the treatment of progressive muscular atrophy has fallen short of his expectations, yet it has gone a long way to dissipate the horrible sense of depression, discouragement or even despair, which the prognostic contemplation of these cases hitherto aroused For an adult the dose should be 1/25 gr once daily for six weeks resumed after an intermission of two weeks and so on until several courses have been taken Though many patients can bear a larger dose without exhibiting unpleasant symptoms the results following its use are not so good as when a small dose is given Possibly, a certain amount of the drug might act as a tonic and restorative to the degenerating neurons while more might accelerate the process of decay No other form of strychnin than the nitrate given hypodermically and no form whatever, not even the nitrate itself, given by mouth, can influence the course of the disease favorably The value of hygienic measures, and the judicious use of electricity massage and gymnastics, is rather enhanced than otherwise when used in conjunction with the strychnin treatment

Boston Medical and Surgical Journal

August 4

16 *Operations on Benign Diseases of the Stomach F B Lund E P Joslin and F T Murphy
17 The Union of the Teachings in Cystoscopy and Microscopy Frank M Johnson

16 **Operations on Benign Diseases of the Stomach.**—The authors review the surgery of benign diseases of the stomach at the Boston City Hospital and the Massachusetts General Hospital during the last six years They report a series of operations for chronic gastric ulcer, pyloric obstruction and acute gastric dilatation perforation of gastric ulcer and gastric hemorrhage Surgical intervention in gastric hemorrhage should be considered even before it is urgent, and the physician, with the surgeon, should watch the course of the patient Operations on females under 30 years of age should be advised most conservatively since death under medical treatment is rare Time should not be lost during an operation in seeking the bleeding point, but gastroenterostomy should be performed The mortality in operations for perforation of the stomach is dependent chiefly on the length of time intervening between perforation and operation and the virulence of the infection Patients with chronic ulcers of the stomach or strictures of the pylorus should be watched jointly by the physician and surgeon Postponement of operation after it is indicated is dangerous owing to the possibility of hemorrhage perforation and exhaustion Many conditions must be taken into consideration when estimating the final results in the cases reported First, the method used, second the operator, third the time of operation and fourth the nature of the case Doubtless the next six years will show a remarkable improvement in this branch of surgery as compared with the results of the past six years In many instances the technic has been faulty owing largely to the inexperience of the operator Med

ical clinicians are learning to differentiate those cases which are amenable to surgical treatment while there is yet time and opportunity for surgical aid Modern surgical technic, and in particular posterior gastroenterostomy by the method of Moynihan, and the gastroduodenostomy of Finney, have shortened the convalescence and improved the final results in gastric surgery Of the 21 cases of pyloric obstruction operated on 5 died, 9 are well, 3 were relieved 2 required secondary operation, and 4 were not benefited Of the 21 cases of chronic ulcer 5 died, 7 are well, 4 were relieved, 8 required secondary operation, and 5 were not relieved Hemorrhage—Ten cases 10 deaths Perforation—Eighteen cases, 13 deaths 5 recoveries and 2 cases required secondary operations Acute dilatation—One case, 1 death

New York Medical Journal

August 6

18 The Pathogenesis of the Aneurismata of the Aorta Fritz Schwyzer
19 *The Best Method of Operating to Effect a Radical Cure of Senile Hypertrophy of the Prostate Gland (To be continued) Orville Horwitz
20 *The Indications for and the Technic of Prostatectomy G Frank Lydston
21 Appendicitis Associated with Disease of the Tubes and Ovaries H C Coe
22 *Placenta Previa Centralis A A Moore

19 **Senile Hypertrophy of the Prostate**—As the result of a study of 150 radical operations for the cure of senile hypertrophy of the prostate gland, Horwitz concludes that a Bottini operation or a prostatectomy performed as soon as the symptoms of obstruction begin to appear offers the individual a better chance for help, comfort and prolongation of life than the unfortunate patient who leads a catheter life Experience proves that patients of the latter class eventually succumb to one or the other sequela attendant on this method of treatment The author advocates early operations in both private and hospital practice, and reproaches himself for being at times too conservative by delaying surgical intervention He urges on the profession the importance of having a surgeon supervise these cases of prostatic hypertrophy in conference with the attending physician as soon as it is deemed necessary to resort to catheterism By adhering to this rule cases that will ultimately require an operation will be recognized early and permanently relieved with comparatively little risk If this suggestion were followed the mortality attendant on radical operations would drop to a very low percentage and so-called "palliative operations would seldom be resorted to The Bottini operation often is condemned by an individual whose experience is limited to a few operations possibly in cases the majority of which may not have been suitable for such an operation And a certain procedure is advocated based on the report of a few successful cases Such expressions of opinion are valueless, as reliable statistics can only be obtained by the study of the results in a large number of cases Furthermore no effort is made by writers to classify their cases according to age, character of the growth condition of the patient or length of time that he has suffered, all these conditions have a direct bearing on the proper methods of treatment, the results which follow the operation, as well as the question of mortality Of all the radical methods that have been suggested for dealing with enlargement of the prostate gland, but two have stood the test of experience—prostatotomy by means of the galvanocautery (the Bottini operation) and prostatectomy

20—See abstract in THE JOURNAL xli, p 1106

22 **Placenta Previa Centralis**—Moore reports a case of placenta previa centralis in which there were very copious hemorrhages, followed by collapse It was impossible to find the edge of the placenta, so that it was deemed expedient to introduce the hand directly through the placental tissue this in the author's opinion, being less likely to produce violent hemorrhage during the ensuing manipulations than if the placenta were stripped from the uterine wall Podalic version was performed, the placenta was delivered manually Credé's method proving ineffectual The child was dead The patient was given a hot mercury bichlorid intrauterine douche, 1 to 10,000, at a temperature of 112 F One half a dram of fluid extract of ergot was given hypodermically, and this was continued three times on the following day and twice on the next On the third day the patient's temperature was normal, and continued so until the eighth day, when the patient was discharged from the hospital Moore believes that the fetus had died one or two days before its delivery, as there was a minus quantity of the normal mucus in the mouth and throat, and in efforts at insufflation by the mouth there was no mucus blown out of the nose

Medical News, New York

August 6

23 Conservatism in Otology Gorham Bacon
24 Intrahepatic Cholelithiasis (Continued) Edwin Beer
25 *Observations on Dilatation of the Stomach and on Gastroptosis Robert Coleman Kemp
26 *Experiments to Determine the Value of Collargolum and Antistreptococcic Serum in Infected Wounds of the Eye J H Claiborne and E P Coburn
27 Puerperal Sepsis Swithin Chandler
28 Vaccination and the Law Nelson G Richmond
29 Dipsomania and Its Treatment William Lee Howard

25 ***Gastroptosis**.*—Kemp details the result of a series of observations made on cases of gastrointestinal diseases in two New York hospitals He calls attention to the unfortunate fact that too often physicians depend on the examination of the stomach contents alone for a diagnosis of gastroptosis, and neglect the investigation of the motor functions and position of the stomach A prolapse of the stomach may exist without discoverable nephroptosis, and often with no enteroptosis that is detectable by the ordinary means of physical diagnosis As long as the functions of the organ are normal we can not regard the conditions met with as pathologic He discusses atonia gastrica dilatation of the stomach and gastroptosis the general treatment of the latter being summed up as follows 1 Correction of the derangement of the stomach by appropriate diet and medication suited to each case 2 Regulation of the bowels 3 Mechanical support to increase the intra-abdominal tension such as (a) silk abdominal supporters, (b) bandaging as by the Van Valzah Hayes method, (c) Gallant's corset, (d) Rose's adhesive plaster belt—the best of the three as it can not slip and become displaced He prefers, however, rubber plaster on moleskin, as it is looser in texture and the sweat readily evaporates through it It can be worn longer and with practically no irritation It is superior to the ordinary rubber adhesive and even to the zinc oxid plaster Dr Rose's belt is the best to fulfill the indications The paper closes with a description of the various methods that may be employed for locating the position of the stomach

26 ***Collargolum and Antistreptococcic Serum in Eye Infections***—According to the authors 7½ per cent of the blind are made so by injuries to the eye and the ineffectiveness of modern methods of treatment This has led them to conduct experiments with collargolum and antistreptococcic serum with the view of determining their efficiency in the treatment of infected wounds of the eye Collargolum is an allotropic form of silver (colloidal silver), which is soluble in water in the proportion of 1 to 25, forming a brownish solution It has some direct bactericidal action and produces a marked and rapid leucocytosis, but is ineffectual in preventing the spread of purulent processes in the eyes of rabbits, whether used intravenously or by injection into Tenon's capsule. It has, however, been used with considerable success in septicemia and pyemia, surgical infections, puerperal sepsis, sepsis of infectious diseases, skin diseases, venereal diseases and certain muscle diseases, including rheumatism, abscesses cellulitis, etc when injected intravenously in a 1 per cent. solution It has also been used successfully by inunction in the form of Credé's ointment in the treatment of eye diseases In the experiments a 2 per cent solution of collargolum was injected, in one series of animals into the veins, and in another series into the capsule of Tenon Twenty five minims of the solution were injected into the veins on successive days, but the inflammatory conditions increased The same was true of the second series that in which the injection was made directly into the capsule of Tenon In still another series collargolum in 100 minim doses of the 2 per cent solution, was injected intravenously The results were the same as in the other

eries In another set of experiments antistreptococcus serum was injected intravenously in quantities varying from 5 to 10 c c The injection of the serum into the capsule of Tenon also was ineffectual Antistreptococcus serum does not appear to exercise any favorable influence on purulent processes in rabbits eyes, but there is no good reason why serum treatment should not be tried in all forms of purulent eye diseases inasmuch as it has been found successful in the treatment not only of pure streptococcus infection, but also of such infections mixed with staphylococci The use of antistreptococcus serum, being harmless, may be of benefit even though selective in its action In certain experiments it has been shown that the doses of serum must be increased enormously the longer the treatment is begun after the primary infection The authors recommend the exercise of considerable care in its use as death is likely to follow from air embolism, as was the case in one of their experiments

Cincinnati Lancet Clinic

August 6

30 Résume of the Clinical Results on the Newer Methods of Diagnosis in Surgical Diseases of the Kidneys Wm E Lower
31 A Case of Tumor of the Brain Operation Recovery H J Whitacre
32 Surgical Treatment of Minor Injuries W N Bradford
33 Man in the Divorce Court L S McKee

St Louis Medical Review

July 30

34 Chronic Infective Arthritis Simulating Chronic Polyarticular Rheumatism Due to Chronic Abscess in Connection with a Tooth J R Clemens

Richmond Journal of Practice

June

35 *Modification of Cow s Milk for Feeding in Early Infancy McGuire Newton

35 **Modification of Milk for Infant Feeding**—To those who live in large cities, says Newton, the modification of milk is an easy task, but for those who have not the advantage of a milk laboratory, and who, consequently, have to resort to the home modification, there are many difficulties, and these are often sufficient to prevent an intelligent attempt to prepare a proper food mixture A number of set formulæ may be used, but that based on an analysis made for winter is the simplest and will be of much service in overcoming the difficulties connected with the modification of milk The formula is as follows

INFANT S AGE	TABLE 1			TABLE 2				TABLE 3	
	Percentage of Fat	Percentage of Sugar	Percentage of Proteid	Quantity of "top milk" from a vessel containing a quart (in ounces)	Milk Sugar (in teaspoonfuls)	Lime Water (in ounces)	Boiled Water (in ounces)	Number of Feedings	Amount of each Feeding (in ounces)
1-3 day	2	7	0 25	1	3 5	1 5	9	10	5-1
4-7 day	2 5	7	0 33	1 5	4	2	10 5	10	1 1 25
2d week	3	7	0 50	2 25	4	2	10	10	1 5
3d week	3 5	7	0 75	6	7	4	18	10	1 5-2 5
2d month	4	7	1	9	8	4	19	9	2 5-3
3d month	4	7	1 25	11	7 5	4	17	8	3 -4
4th month	4	7	1 50	13	7	4	15	7	4 5-5
5-6 month	4	7	1 75	15	6 5	4	13	6	5 5-6 5
7 9 month	4	6 5	2	17	5 5	4	11	6	6 5-7 5
10-11 month	4	6	2 50	21	4 5	4	7	5	8 -9
12 month	4	5 5	3	25	3	4	3	5	9 -10

In the first table will be found the proper proportions in which the constituents should occur at the various ages In the second table are found the quantities of "top milk" sugar, lime water and sterile water necessary to prepare proper mixtures, and in the third table are found the number of daily feedings and the quantity of each for various ages To prepare food mixtures according to this table, it is necessary to have a quart of milk which has stood long enough for the cream to rise, and from which the desired quantity is to be taken by means of a dipper or siphon made for the purpose. The formula is simple and accurate, and when the table is followed closely mistakes are much less liable to occur than with a more complex method Certain indications demand special modification of the milk, such as a slow gain in weight with no digestive disturbance, indicating a deficiency in all the ingredients, especially the sugar Thin, green, acid stools, with or without colic, indicate an excess of sugar Constipation, with dry, hard stools, indicates a deficiency in fat Excess of fat will cause vomiting or regurgitation of small quantities of food one or two hours after feeding, or frequent, apparently normal, bowel movements The presence of curds in the stool, with or without colic, points to an excess of proteids These indications are to be met by the use of formulæ in which the disturbing elements are altered in response to the demands of the case

The Laryngoscope, St Louis

July

36 Reflex Neuroses of Nasal Origin G Hudson Makuen
37 Neuroses of the Pharynx F E Hopkins
38 Neuroses of the Larynx Emil Mayer
39 *Some Interesting Cases of Mastoiditis James F McCaw
40 *Treatment of Tinnitus Aurium Wm S Bryant.
41 Unilateral Hyperasthesia of the Tongue as a Concomitant of Acute Otitis Media Lennox Wainwright.
42 Chevalier Jackson s Transilluminator with Some Modifications Otto T Freer

39 **Some Interesting Cases of Mastoiditis**—The first case reported by McCaw is one of acute suppurative otitis media, mastoiditis, subperiosteal mastoid abscess and perisinus epidural abscess following scarlet fever The interest in this case centers about the fact that, although rupture had taken place through the external surface of the mastoid, serious involvement of the intracranial contents was taking place It furnishes a striking illustration of the necessity of always opening the mastoid process in subperiosteal accumulations, regardless of the fact that the external surface may show no pathologic changes The patient was operated on and recovered The second case was one of acute suppurative otitis media and double mastoiditis, following an attack of influenza. The points of interest in this case, besides the simultaneous occurrence of a double mastoiditis, were the profound septic conditions and mental derangement The third case contracted acute suppurative otitis media and mastoiditis following typhoid fever Although there was some uneasiness in the ear for about one week, it was only three days after the first pain in the ear before operation revealed an extensive mastoid involvement There must have been a simultaneous infection of tympanum and mastoid, as the extensive distribution of pus and the beginning necrosis can not be accounted for in any other way The anomalous arrangement of the cells about the mastoid tip also was a peculiarity in this case. The most internal one was situated so deeply that it might readily have been overlooked and continued to act as a focus of infection. In the last case, one of acute suppurative otitis media, mastoiditis, epidural abscess and meningitis, there was no history of a previous illness, except that the patient a man aged 87, had been almost totally deaf in one ear for twenty years The diagnosis was evident but in view of the patient's extreme age, the complications and the request of the family, operative measures were desisted from at that time When the operation was finally performed the patient died, without regaining consciousness, forty eight hours afterward with pulmonary edema

40 **Treatment of Tinnitus Aurium**—Bryant gives a very thorough review of the local treatment of tinnitus aurium from all causes, and presents the following classification

I OBJECTIVE.
  1 VIBRATORY
  1 *External* (a) Vascular (b) Pharyngeal (c) Respiratory (d) Muscular
  2 *Internal* (a) Tubal (b) Tympanic
II SUBJECTIVE
  (A) PHONETIC
  1 *Exaural* (a) Vital (b) Diplacusic
  2 *Endotic* (a) Circulatory (b) Myotolitic (c) Movement. (d) Somatic.
  (B) NEUROTIC
  1 *Peripheral* (a) Reflex.
  2 *Otic* (a) Conduction I Myringeal II Tubal III Ossicular IV Mucous V Contraction VI Adhesion. VII Fenestral VIII Traumatic. IX. Meatal (b) Reaction.
  3 *Sensory* (a) Nerve Tinnitus I Peripheral II Trunk III Proximal IV (b) Psychopathic I Central II Illusional III Hallucinational IV Delusional

supply for a household or town, would be entirely unsatisfactory It is unsuited for domestic purposes, and is even more objectionable for generating steam because of its tendency to oxidize metals, and in that way to destroy apparatus The chemistry of good drinking water is discussed at great length, it is the same as can be found in any modern text book on the subject For the filtration of surface waters used in the household the author recommends filters made of unglazed porcelain or fine infusorial earth, such as the Pasteur and Berkefeld filter The latter is superior to the former, as it filters considerably faster Of course, all filters require frequent and thorough cleansing It may be necessary to sterilize or distill the water or to purify it chemically Of the method instituted for the chemical purification of water, the most successful has been the use of ozone, generated electrolytically and passed through the water Traube's method, the addition of chlorinated lime or bleaching powder, is also a good one For general domestic use no water requiring treatment is to be recommended, first, because of the expense involved in securing the required purification, and secondly, because of the danger through carelessness or neglect of not being able at all times to maintain a proper standard of purification The capitalized cost of maintaining a purification system generally will more than suffice to provide a supply of wholesome water Having procured a satisfactory supply of water for domestic use, it is necessary that such constructive measures shall be taken as will enable the water to be transported from its source to the place of utilization without impairing its quality, and of storing it in sufficient quantities for all ordinary uses or emergencies

Kentucky Medical Journal, Louisville

July

71 Ether Anesthesia R Linsey Ireland.
72 *Mastoiditis in General Practice J A Stucky

72 **Mastoiditis in General Practice** —Stucky is of the opinion that the average practitioner does not appreciate the gravity of suppurative disease of the ear, nor equip himself with the facilities for recognizing serious complications, either in the acute or chronic forms The average case of chronic otorrhea can not be wiped out or medicated into a healthy condition Mastoid antrum disease is the appendicitis of the head, and every case of chronic suppuration of the middle ear is a slumbering volcano or a charge of dynamite liable to explode at any time The only safe treatment for suppurative mastoiditis is an early opening of the cells and the establishment of free drainage, thus getting rid of the disease entirely, or else making it the point of least resistance from the brain in case of subsequent infection Under aseptic precautions the operation is practically devoid of danger, delay in doubtful cases may lead to more serious complications When in doubt whether there is pus formation, if there be evidence of mastoid involvement, it is safer to do an immediate exploratory operation rather than to attempt to abort the disease In no diseases are the symptoms more misleading than in the one under consideration Pain, temperature, and pulse, and general systemic condition often do not give evidence of the serious destruction of tissue and rapid inroads being made on the vital centers The auditory canal should be examined thoroughly, and any sagging or bulging of the posterior superior wall is to be regarded as pathognomonic evidence calling for immediate operation Pressure, which causes pain over the antrum or tip of the process after the third or fourth day of an acute otitis media in which there is a free drainage through the tympanum with systemic disturbance, is also an indication for surgical interference The consensus of opinion is that it is eminently wise to operate on cases of chronic suppuration in the quiescent state Then the Stacke operation can often be done, involving a short convalescence There is always danger in delay, but, perhaps, never more so than in the acute stage of mastoiditis when involvement of important structures may be very rapid and often fatal

Medical Fortnightly, St Louis

July 25

73 Some Remarks on Bacteria in the Dead Body R B H Gradwohl
74 Diagnosis of Pulmonary Tuberculosis Frank Billings
75 Dimness of Vision as an Ocular Complication with Lumps, with Report of Two Cases W E Fischer
76 Observation on the Relations of the Ductus Bilis and Ductus Pancreaticus with Illustrations of Calculus in Each Duct. Byron Robinson
77 A Plea for Early Exposure of the Mastoid Antrum and Cells in Persistent Acute Otitis Media Purulenta with Pain J C Buckwalter
78 Value of Blood Examination in Differential Diagnosis Herbert A Potts

Virginia Medical Semi-Monthly, Richmond

July 22

79 The Bedside Diagnosis of Typhoid Fever with Special Reference to the Early Recognition of the Disease Charles Z. Chandler
80 Cholera Infantum W H Wallace
81 Gastro uterine Disease Joseph M Rector
82 Fractures of the Skull J Shelton Horsley
83 Sundown Journalism T D Crothers
84 Diphtheria J A Williams

Northwestern Lancet, Minneapolis

August 1

85 A Study of Electrical Injuries H L Stapler
86 Art and Science of Medicine Charles Lyman Greene
87 Some Ideas Regarding the Nature of Syphilis Franklin R Wright

Central States Medical Magazine, Anderson, Ind.

July

88 Diagnosis Reminiscent John E Lockridge
89 Chronic Muscular Rheumatism and Sodium Salicylate G D Lind
90 Blood Diagnosis in Typhoid Fever W T S Doods
91 Enemata J W Wainwright
92 Report of a Case of Typhoid Fever Complicated by Subcutaneous Abscesses and Intestinal Hemorrhage with Temperature of 107 Degrees H M. Johnson.
93 Report of a Case of Pneumonia with Reinfection Necessitating Thoracotomy Followed by Recovery T Roy Cook

Oklahoma Medical News-Journal, Oklahoma City

July

94 Organization A K West

Therapeutic Review, Philadelphia

July

95 Glandular Fever, with a Report of Three Cases Clara T Dercum

Medical and Surgical Monitor, Indianapolis

July 15

96 Some Later day Tendencies in Medical Education Stanley Coulter
97 Some Points on Modern Principles in Treating Fractures and Dislocations J B Fattic
98 Syphilis—A Non venereal Disease Nelson D Brayton
99 Tuberculosis Wm A McCoy
100 Pneumonia and Its Treatment Henry R Slack.

Journal of Medicine and Science, Portland, Maine

July

101 Ocular and Aural Therapeutics Erastus E Holt

Colorado Medicine, Denver

July

102 Perforation of the Appendix with General Peritonitis, Sepsis and Perforation of the Colon John P Hammill
103 Some Helpful Analogies W W Wilkinson

Kansas City Medical Record

July

104 Duty of the Medical Expert A L Fulton
105 Acute Gastroenteric Infection or Summer Diarrhea Tom Fields

Fort Wayne Medical Journal-Magazine

July

106 Clinical Consideration of Arteriosclerosis. A C Kimberlin.

Pacific Medical Journal, San Francisco

July

107 Simplicity in Diagnosis and Therapy of Digestive Disorders Alfred W Perry
108 Immunity from Tuberculosis Its Production by Fat Foods and Outdoor Camp Life Thomas Bassett Keyes

St. Louis Courier of Medicine

July

109 Use of the Colpeurynter in Obstetric and Gynecologic Practice George Gellhorn
110 The Vesical Trigone Trigonum Vesicæ—Its Anatomy and Physiology Byron Robinson
111 Report of a Case of Senile Chorea W L Johnson
112 Should a Physician Attending Puerperal Sepsis Continue His Midwifery Practice? H N Chapman

Vermont Medical Monthly, Burlington

May 25

113 Pulmonary Tuberculosis D D Grout.
114 Ten Years' Obstetrical Practice W J Aldrich

Western Medical Review, Lincoln, Neb

July

115 The Medical Profession Its Relation to the Public B B Crummer
116 Electro therapeutics in Country Practice F A Butler
117 Meteorism Following Abdominal Operations A P Condon

Woman's Medical Journal, Toledo, Ohio

June

118 Acute Rheumatism Marie Schmidt
119 Facial Erysipelas in the Third Week of the Puerperium in a Woman with Serious Heart Lesion Mary O Porter
120 The Emotions Lena A Beach

Medical Herald, St Joseph, Mo

July

121 *Minimum Requirements for Aseptic Surgical Operating in a Hospital in which the Personnel of the Operating Room is Permanent A J Ochsner
122 Home Management of Chronic Cases J H Cleaver
123 Fecal Impaction I E Walker
124 Vague Muscular Pains and Aches G B Acker
125 Correction of Some Complications in the First Stage of Labor W Berry

121 —See abstract in THE JOURNAL of July 2, p 67

Medical Mirror, St Louis

June

126 Neural Phases of Dentistry Marc R Hughes
127 Some Clinical and Pathologic Phases of Urinary Obstruction. G Wiley Broome
128 Case of Complete Retroversion of the Gravid Uterus N Newnhan Davis

Dominion Medical Monthly, Toronto

July

129 Influence of Heredity on the Expectancy of Life H R Frank
130 Expectancy of Life in Morbid Conditions of the Genito urinary System F LeM Grasett
131 Expectancy of Life in Morbid Conditions of the Cardio vascular System Robert J Dwyer
132 Expectancy of Life in Morbid Conditions of the Respiratory System Edwin Ryan
133 The Nervous System in Relation to Life Assurance H C Scadding
134 Life Insurance James Thorburn
135 Influence of the Plan of the Acceptance of Risks for a Life Insurance Company Percy C H Papps
136 Financial Responsibility of the Medical Examiner for Life Insurance. Bruce L Riordan

Alabama Medical Journal, Burlington.

July

137 Abdominal Hysterectomy for Fibroid Tumors of the Uterus George H Noble.
138 Passing of the Old time Doctor George T McWhorter
139 Some Suggestions in the Management of Large Cystic Tumors of the Abdominal and Pelvic Cavities with Report of Case W R. Bishop

Carolina Medical Journal, Charlotte

July

140 Management and Treatment of Typhoid Fever R M Reid
141 The Sponge Bath in Typhoid Fever H S Monroe
142 Immunity Albert Anderson

Journal of Comparative Neurology, Granville, Ohio

July

143 Associative Processes of the Guinea pig A Study of the Psychical Development of an Animal with a Nervous System Well Medullated at Birth Jessie Allen

Old Dominion Journal, Richmond, Va.

July

144 George Ben Johnston Twenty third President of the American Surgical Association Charles R Robins
145 Errors in Diet as a Cause of Infantile Diarrhea. St G Grinnan
146 Medical Society s Dynamics W H Wallace
147 Report of an Obstetrical Case John B Woodville
148 Modification of Cow s Milk for Feeding in Early Infancy McGuire Newton

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FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 30

1 *President s Address, British Medical Association William Collier
2 *Address in Medicine William Selby Church
3 *Address in Surgery William Macewen.

1, 2, 3 —See abstract in the Society Proceedings of THE JOURNAL in this issue

The Lancet, London.

July 30

4 The Growth and Development of the Oxford Medical School William Collier
5 Our Sanitary Needs, with Special Reference to the National Health William S Church
6 The Hereditary Bias and Early Environment in Their Relation to the Diseases and Defects of Children R Clement Lucas
7 Bright s Disease and Its Varieties John Rose Bradford.
8 *Red Light Treatment of Smallpox T F Ricketts and J B Byles
9 Sleeping Sickness A Résumé Aubrey D P Hodges
10 Symptoms and Treatment of the Intracranial Complications of Otitis Media with Cases. George Heaton
11 *Case of Multiple Sarcoma Seymour Taylor
12 Case of Acute Arsenical Poisoning R L Sedgwick

8 **Red Light Treatment of Smallpox** —The authors report a series of 13 cases in which the red light was used without any benefit to the patient The ward in which these cases were treated was a small one containing four beds It has six windows, all of which were blocked by a double layer of photographic ruby" fabric There were two doors, over each of which was hung a curtain made of a double thickness of red "Turkey twill' The doors opened into lobbies, and an area around each door was screened off with a double thickness of the same material, so that on passing through the door and under the door curtain one found oneself in a small chamber completely shut in with red curtains The effect of this arrangement was that persons entering or leaving the ward admitted no white light when raising the curtains In fact, the ward was converted into a photographic dark room Artificial light was obtained by the use of dark room lamps with red glass Of the 13 cases treated in red light throughout the period of suppuration, 5 were vaccinated, 6 were unvaccinated, 1 patient had been vaccinated in the period of incubation, and in 1 case the matter was doubtful Four were cases of discrete and 9 of confluent smallpox The mildest case was one of a very moderate type of discrete smallpox, and at the other extreme was one of very severe confluent smallpox Two of the patients died, both during the fever of suppuration In neither case was there any complication to which the fatal result could be attributed The treatment did not affect suppuration nor did it prevent scars The milder cases recovered without scars and the more severe did not The authors agree that this treatment possesses none of the merits which have been claimed for it, in fact, the mental complications occurred more frequently and were more severe than with the ordinary methods of treatment. In most of these cases the treatment was harmful In addition to increasing the tendency to mental symptoms, the suppurative fever appeared to range higher than might have been expected, and the general condition of the patient was bad The patients did well in respect to affections of the eye, as might be expected, but they had more than their share of the other septic sequelæ of smallpox One great objection to the red light treatment is the difficulty of carrying out personal and general hygienic measures, because in excluding light we must necessarily limit the supply of air In all suppurative conditions, and especially in smallpox, an abundant air space and the freest circulation of air is essential Any form of treatment which puts a check on the supply of fresh air must be regarded with suspicion unless it brings solid advantages in compensation, which is not the case with the red light treatment The writers appeal to Dr Finsen to cease to lend the weight of his authority to the support of a method of treatment which, if it is inefficacious, necessarily must be inhumane

11 **Multiple Sarcoma** —Taylor reports the case of a man aged 32 the victim of multiple sarcomata Scattered over the abdomen and thoracic walls were a number of solid tumors varying in size from that of an orange to that of a large pea The large growth was situated on the right side of the abdominal wall midway between the anterior superior iliac spine and the umbilicus Its surface was red and granular, but there was no discharge, although yellowish scales of necrosed epidermis appeared between the granular nodules Both mammæ were indurated and involved with the neoplasm Similar nodules were found in the skin over each fourth costal cartilage, and gave the impression of a circular outbreak involving the abdominal wall principally, but also the lower zone of the thorax but to a lessened degree Smaller growths were found over the front of the upper chest. The inguinal and axillary lymph glands were indurated and matted together Those of

the neck were unaffected The skin was fully movable over each tumor and was uninvolved over the smaller ones Similar tumors were also found on the back, especially over the left scapula All these growths appeared within a period of six months Microscopic examination showed these tumors to be small round celled sarcomata The patient died seven months after the first signs of the disease were noticed No autopsy was allowed

The Practitioner, London

July

13 History of Syphilis in France Since Ricord Paul Gaston
14 *Mercurial Injections in Treatment of Syphilis Louis Wickham
15 On the Treatment of Syphilis in Wiesbaden Karl Touton
16 The Treatment of Syphilis at Aix La Chapelle Anton Levin
17 *The Zittmann Treatment of Tertiary Syphilis Alfred Cooper
18 Syphilis Disease of the Brain F W Mott
19 *Serum Treatment in Syphilis J Ernest Lane
20 Syphilis in Egypt Frank C Madden
21 Syphilis in Children George F Still
22 The Ocular Manifestations in Syphilis and Their Treatment Walter H Jessop
23 Syphilis and its Treatment in the Upper Air Passages St Clair Thomson

14 **Mercurial Injections in Syphilis**—Wickham says that the hypodermic method has the great advantage of sparing the stomach, it favors the more direct penetration of the mercury into the blood stream, a more complete utilization of the dose administered, and permits of exact dosage Before undertaking the treatment, it is well to examine the urine with reference to the condition of the kidneys, and to insist that the teeth be thoroughly overhauled by a dentist If the state of the kidneys is carefully watched and the cleanliness of the mouth maintained, large doses of mercury can be taken without inconvenience The initial dose should be small, and then raised gradually, but persistently, as long as no reaction is produced The surgeon should inform himself of the exact mercury content of the salt he elects to use It is well to restrict one's medical armament so that by employing only a small number of preparations we may become thoroughly familiar with the mode of using them It is best to raise the dosage to a considerable amount rather than to use a moderate average dose, which may prove quite insufficient in particular instances It must be remembered that an attack of syphilis which at first appears benign may develop into a grave case In cases of gravity it is natural to employ large doses, but every case must be looked on as potentially grave and treated as such Along with the treatment by injections all collateral remedial measures must be carried out, such as local dressings and tonics, these measures are of the greatest importance and may in some cases assume a dominant position In cases where the weakness of the patient is marked, injections of mercurial salts incorporated with large doses of physiologic serum are excellent, although the injections of the serum in large quantities apart from the daily injections of soluble salts of mercury are preferable The best site for the injection is the buttock, at the point of intersection of two lines, one horizontal line passing through the junction of the upper quarter with the lower three quarters of the buttock, the other a vertical line through the junction of the internal third with the external two thirds of the region The injections can be made in an area having a radius of 2 cm., the point of intersection of the two lines being its center The injections may be either superficial, or they may be deep, because of the irritation produced by salts of mercury, the injections are almost always intramuscular In thin subjects, in whom gluteal intramuscular injections are not well borne, and in whom it is necessary to attack the disease vigorously, the intravenous route may be chosen The injections may be given at the bend of the elbow into the cephalic or basilic vein on either side The usual antiseptic precautions must be observed The salt used is a cyanid, the largest dose hitherto employed being 0 01 gram daily The author also discusses the instrumentation, the different mercurial solutions preparations of insoluble salts and gives directions for treatment and the choice of salt to be used

17 **Zittmann Treatment of Tertiary Syphilis**—Cases are occasionally met with in which iodid or mercury not only prove ineffectual in arresting the progress of the disease, but actually aggravate the symptoms and hasten the destruction of tissue It is in such cases as these, says Cooper, that the Zittmann treatment proves most effectual Under it healing occurs rapidly, and the symptoms disappear quickly A fortnight's treatment with this remedy will arrest the disease and will cause rapid healing and cicatrization of the lesions The principle of the treatment consists in eliminating the poison from the system by sweating and purgation The patient is kept in a room the temperature of which is maintained at 80 F The evening before commencing the treatment two of the following pills are administered

℞	Hydrarg chloridi mitis	gr ii	12
	Ext colocynthidis	gr v	30
	Ext hyoscyami	gr ii	12

The diet is regulated, and for the first four days the patient drinks half a pint of the following decoction, as hot as possible, at 0, 10, and 11 a m , and 12 m

DECOCTION I

℞	Rad sarsæ contus	iv	
	Sem anisi contus		
	Sem fœniculi contus, āā	ʒviiss	31
	Fol sennæ	℥i	30
	Rad glycyrrh contus	iv	
Add	in a linen bag		
	Sacchar alb		
	Alum sulph		
	Hydrarg chloridi mitis, āā	ʒiss	6
	Hydrarg bisulph rub	℈i	1
	Aquæ	Cong iii	12 liters

Boil gently down to 1 gallon, strain, and put into four 40 ounce bottles

On the same days, at 3, 4, 5 and 6 p m , half of the following decoction, which is taken cold

DECOCTION II

To the dregs from No 1 decoction add

Rad sarsæ contus	℥ii	60
Cort limonis contus		
Sem cardamon contus		
Rad glycyrrh contus , āā	ʒi	4
Aquæ	Cong iii	12 liters

Boil gently down to 1 gallon and put into four 40 ounce bottles

The patient is kept in bed except for an hour every evening, when he may sit up On the fifth day he is given a hot bath and allowed to get up In the evening two pills are administered, the patient starting the decoctions again on the next day as before This treatment goes on in the same way until the fifteenth day, when it is discontinued The author has used it with great success in all the tertiary lesions of syphilis, as well as in many skin diseases and in rheumatic and gouty affections

19 **Serum Treatment in Syphilis.**—The results of this treatment, says Lane, have not been sufficiently favorable to recommend it as a routine therapeutic measure The majority of cases treated with serum showed some improvement in the general health and a more rapid healing of the syphilitic ulcers, especially when other anti syphilitic treatment was used concurrently Nevertheless, the treatment does not appear to modify the course of the disease or to diminish the intensity of the later manifestations

Australasian Medical Gazette, Sydney

June 20

24 An Introduction to Modern Theories of Immunity D A Welsh
25 Cerebral Hydatid Operation Recovery J C Vercow and B Poulton
26 Right Central Hemianopsia with Word Blindness J L Gibson
27 Peritonitis or Ileus Charles MacLaurin
28 Conservatism in Renal Surgery H C Hinder
29 *A Case of Unilateral Gigantism C Reissmann
30 *Ethyl Chlorid as a General Anesthetic St John Dansey

29 **Unilateral Gigantism.**—Reissmann reports the subsequent history of a case of unilateral gigantism which came under his observation in September, 1902, and was reported at the time The patient, a child 26 months old, still exhibits right sided gigantism, the cheek, arm, forearm, and leg and

foot on the right side are larger than the corresponding parts on the left side, but not as much as they were 20 months ago The giant side has not grown proportionately to the sound side, although it is stronger The head is large for a child of its age, but the left side of the cranium, in the parietal and occipital regions, is larger than the right The child speaks well, is intelligent, active and strong, but irritable The peculiar interest in this case lies in the association of left cranial enlargement with complete right sided gigantism No similar case has been reported The author suggests that some part of the central nervous system (? the left parietal cortex) is primarily at fault It is a noteworthy fact that none of the 11 reported cases of gigantism were observed until some time after birth In the case in question nothing was noted amiss with the child until it was some weeks old, from which one may conclude that the overgrowth of tissues did not commence until after the nervous system has established what the author terms trophic control over the peripheral tissues If the condition of gigantism is due to an abnormality of the developing mesoblasts, as has been suggested, it is remarkable that not one of the 11 recorded cases were noticed at birth Reissmann believes that there is sufficient evidence to warrant a strong suspicion that the origin of this rare condition is a pathological activity of certain nervous structures which excites an abnormal growth in the parts they control In the case in hand it seems probable that the nervous structures primarily affected are those which have some influence on the growth of the right side of the body, namely, the cortical cells in the parietal region of the left side of the brain

30 **Ethyl Chlorid as a General Anesthetic.**—Dansey prefers ethyl chlorid to nitrous oxid gas because it is quicker in the initiation of anesthesia, there is none of that disturbing duskiness which is more the rule than the exception with the administration of gas, it gives a much longer narcosis, the apparatus necessary is more easily portable and the ethyl chlorid is cheaper, it is not unpleasant to the patient, the recovery from narcosis is rapid and there are no subsequent ill effects ethyl chlorid is stimulating to the circulatory and respiratory centers, rather than depressing He has given ethyl chlorid in over 60 cases for removal of adenoids, opening abscesses, teeth extractions, exploratory punctures, etc He uses an ordinary Clover's ether inhaler, the ebony plug at the side being replaced by one with a small hole eccentrically placed downward, into which fits a small conical peg The usual rubber bag is used or a bag made of fine silk lightly wrung out of water To fill the inhaler the indicator is turned to zero and the small peg removed, through this hole about 4 c c. of ethyl chlorid are sprayed into the ether reservoir The patient is told to take a deep breath and the mask is fitted to the face in the usual way At first the pulse is slightly slowed, but it soon regains its former rate, the color is good right up to deep narcosis, spasm and excitement are very rare When the pupil is well dilated and the conjunctival reflex has disappeared the patient is anesthetized sufficiently In anesthetizing with ethyl chlorid the chief point to bear in mind is the very rapid transit through the second and third stages of anesthesia. He also uses ethyl chlorid to initiate the narcosis of ether

Bulletin de l'Académie de Médecine, Paris

31 (LXVIII No 26) *Thérapeutique et prophylaxie anticancéreuse dans les campagnes (in the country) Triboulet.
32 *Cas d'épithélioma de la langue traités par la radiothérapie Bisserié
33 *Le diabète pancréatique ses lesions sa nature E Lancereaux.
34 *Report from Hyères Children's Sanatorium.
35 (No 27) *L analgésie locale par la stovaine. P Reclus
36 *Le traitement des anévrismes des gros vaisseaux par les injections de solutions chloruro-sodiques de gélatine. Lancereaux.
37 *L étiologie de l appendicite grippe et alimentation carnée (meat diet) J Lucas Championnière
38 Cas d épithélioma cutané de la region temporo-frontale, guéri par application des rayons X. C Monod.

31 **Anti Cancer Campaign in the Country**—Triboulet urges the installment of Röntgen apparatus in small towns for free, or nearly free, treatment of the poor in the outlying farm district. In certain of the French provinces the number of cases of cutaneous cancer is very large—no village is without a few—and they could so easily be cured under Röntgen treatment if it were only accessible at moderate cost

32 **Cure of Tongue Lesions by Radiotherapy**—Bisserié relates that two rebellious cases of epithelioma of the tongue were completely cured by the Röntgen rays in less than two months, one with four exposures, the other with three Three months have since elapsed without recurrence and the lesions are apparently cured Another patient who had suffered for eight years from fungoid mycosis was practically cured by a few exposures, as also others with leucoplasia of the tongue

33 **Pancreatic Diabetes, Its Lesions and Nature**—Lancereaux describes 4 cases of the type he calls "thin diabetes" Large amounts of sugar were eliminated, 500 gm in the twenty four hours in one case with 5 liters of urine, about 90 gm to the liter in the second, with 12 to 15 liters per day, in the third, 750 to 1,100 gm sugar in 6 to 10 liters, and in the fourth, with a maximum of 550 gm sugar in about 5,500 c c. of urine All the patients were extremely emaciated and they wasted away in progressive debility to death in coma after two to several years Diabetic symptoms, polydipsia, polyuria, polyphagia, etc, the discoloration of the lips, dryness of the skin and weakness were common to all the cases, and at the necropsy all the islands of Langerhans were found completely destroyed The acini were affected in some parts, not in all, but the constancy of the lesions of the islands of Langerhans confirms the connection between them and the disease It is possible that some direct or reflex nervous inhibition from these islands of Langerhans may be the cause of the other types of diabetes, the nervous and arthritic types In all these conditions the diabetes is the symptomatic expression of some functional or material disorder of the nervous system or of some alteration in the pancreas of variable origin Diabetes should, therefore, be regarded as a mere symptomatic expression of the more or less advanced degree of annihilation of a special organ.

34 **Notes from a Children's Sanatorium.**—Vidal has been collecting data in addition to his own experience, which show that girls are much more subject to tuberculosis than boys, and also to all respiratory affections On the other hand, he noted that boys were more subject to parasitic scalp affections than girls A number of local epidemics of favus, alopecia areata and tinea circinata have occurred among the boys, but not among the girls, and the epidemics could not be arrested until the hair of the boys was allowed to grow long Evidently long hair protects against these affections, and possibly, also, pomades applied to the hair

35 **New Anesthetic Stovaine**—Reclus has been testing a new analgesic made by synthesis by a French chemist, Fourneau, and states that now, for the first time, we have in our possession a substance fully the equal of cocain, while only half as toxic and very much less expensive It exerts a specific tonic action on the myocardium Billon, Pouchet and others have also been testing it on animals and in the clinic, and emphasize in particular its special tonic action on the heart Stovaine is the hydrochlorate of benzoic ether of dimethylamino propanol, and is not a general anesthetic Not a trace of by effects was observed or elicited by questioning in the clinical cases in which it has been used for local analgesia, epidural injections, etc

36 **Gelatin Treatment of Aneurisms**—Lancereaux was the originator of this method of treating aneurisms, and here reports his experiences during the years he has been using it Gelatin injected into the buttocks is carried into the blood, and wherever the current is sluggish and there is a depression, an eddy, in the channel, fibrin is deposited. This ensures clot formation in the depths of the aneurism, exactly where it is needed. In the thousands of injections made in his service there has not been a single mishap If any have been observed by others they are due exclusively to impure material or defective sterilization He relates the clinical history of 8 cases of large aneurisms of the aorta treated in this way, 4 of the patients are in good health to day All pains ceased after the first injections, and the tumor subsided. The aneurism was so large in 2 instances that a fatal result was inevitable—

the skin mortified from the pressure of the tumor—but the gelatin relieved the patients and the clots in the pocket prevented rupture, the final hemorrhage being merely an oozing instead of sudden gush of blood Two patients succumbed to sudden syncope before the benefits of the gelatin treatment were apparent The 4 others have been relieved of all their pains and discomfort, and the tumor has vanished No other method of treatment can show such good results in 50 per cent of the cases He used a solution of 7 gm of sodium chlorid and 25 gm of gelatin, with water to make 1,000 gm The formula for a single injection is generally 5 gm gelatin in 250 c c of a 7 per 1,000 salt solution He injects 200 gm every three or four days (At first he made the injections only once a week, but found that the intervals could be safely shortened) Occasionally the injection caused a slight febrile reaction, or a little inflammation at the site, but these accidents were always briefly transient The injected fluid is completely absorbed in less than twenty four hours He sterilizes the gelatin under pressure at 105 to 115 C the latter temperature being the one accepted as preferable by the Academie

37 **Etiology of Appendicitis**—Lucas Championnière denies that appendicitis has long existed and merely passed unrecognized He attributes it to the epidemic of grip, affecting persons who habitually eat much meat He regards appendicitis as a new disease, and advocates restriction of the intake of meat as important in prophylaxis, as also periodical purges Purgation is the great preventive of all alimentary infections, and it should rank as the chief means at our disposal to ward off appendicitis Occasional fasting from meat is an excellent measure, especially for those who have suffered from grip He groups a large number of facts collected from various sources to sustain these views Among them we note the first appearance of appendicitis in certain localities, always after an epidemic of grip, the latter being followed by numerous cases of the previously unknown appendicitis He cites letters from physicians practicing in tropical regions, all testifying to the absence of appendicitis among the vegetarian natives, and its occurrence among the meat eaters In Roumania, whenever there is an epidemic or a sickly period at any remote point in the country, a detachment of physicians and nurses is sent from the hospital of the capital and a temporary hospital is set up, a sort of annex to the large central hospital at Bucharest, and under the control of its officers Professor Stoicesco is at the head of this unique service, and he states that in the rural districts, where little or no meat is eaten, no cases of appendicitis are encountered Out of 108,651 patients treated in these rural hospitals, 1898 1902, only 5 cases of appendicitis were observed, or once in 22,000 patients In the hospitals of the city of Bucharest, during the same period, 221 cases of appendicitis were observed in the 51,817 patients, a proportion of once in 234 patients *La grippe* has swept over the country as over the towns, but the population in the country is vegetarian, while in the towns meat is eaten In the French, British and other colonies and armies the same observation is made again and again, the absence of appendicitis among the native non meat eating population and its prevalence among the meat eaters In the French prisons meat is allowed only once or twice a week, and no eggs In the asylums, also, the menu is essentially vegetarian None of the physicians interrogated knew of a single case of appendicitis in some of these institutions and in the others only 3 cases in many years, one of these a recurrence in a new inmate Investigation of the religious orders showed a remarkable absence of appendicitis among those whose vows compel abstention from meat or frequent fasting, while in others, where much meat is used, appendicitis is remarkably frequent

Semaine Médicale, Paris

39 (XXIV No 28) *La dénutrition par persistance de la sécrétion lactée L Cheinisse
40 *L'esprit d asepsie dans le traitement des plaies (spirit of asepsis in treatment of wounds) F Lejars
41 De la délimitation abdominale du foie et de la rate, au cas d'ascite (outline of liver and spleen) L E Bertrand
42 Traitement des bourdonnements de l'oreille par l'effluve de haute fréquence (electric treatment of tinnitus) Marqués Abstract
43 (No 29) *Recherches sur les localisations motrices spinales G Marinesco (Bucharest)
44 Importance of Daily Weighing of Patients with Anasarca. J Courmont Abstract

39 **Debility from Persisting Lacteal Secretion**—Cheinisse warns that it is possible for the secretion of milk to persist indefinitely in a more or less latent stage and seriously compromise the general health He has observed a case of this kind in which there was pronounced debility and anemia in a young, previously healthy primipara, who had weaned her child more than two years before All the organs were found sound, but in using the stethoscope a drop of milk escaped from the nipple, and the patient casually remarked that she "still had milk " The menses were regular, and analysis of the milk showed that it was not due to a new pregnancy Antipyrin was administered to suppress the milk secretion, about 1 5 gm a day, fractioned By the end of a few days it was impossible to express any milk from the breasts, and without further medication the patient rapidly regained her usual health Beltz reported a similar case in the *Bull de la Soc Méd* of Rheims in 1876 In his patient the milk secretion persisted for more than four years, although milk escaped only under pressure, except during the menstrual period, when there was always an increase The patient complained of pains in the stomach and kidneys, debility and lassitude, and there was considerable anemia. Whenever a woman is anemic and debilitated without apparent cause after weaning a child the possibility of a latent lacteal secretion should be borne in mind

40 **The Spirit of Asepsis.**—The requirements of true asepsis in the treatment of wounds are plenty of good, soft, porous, absorbent gauze, thoroughly sterilized, and applied to the wound with a "muff" around it of absorbent cotton These supply the conditions for perfect physiologic repair and normal defense of the wound process Wet dressings, impermeable coverings, antiseptics, etc , are merely breeding places for germs or devitalize the tissues, enfeebling their resisting powers, while not materially enfeebling the germs In infected wounds it may be necessary to apply hydrogen dioxid or hot saline solution to the depths of the wound, but above them the dressing should be as above All moist, airtight methods of treating wounds should be totally abandoned

43 **Spinal Motor Localizations.**—Marinesco has been conducting research for years on the motor localizations in the spinal cord His work was done mostly on dogs, studying the reactions at a distance after section of nerve trunks or muscle nerves, or resection of muscles after severing the nerve roots He summarizes his conclusions in this article, which is accompanied by 23 illustrations He has found that the muscles which possess a common function are represented by groups of nerve cells arranged in relation to each other to correspond with the anatomic arrangement of their corresponding muscles By this combination Nature economizes material while ensuring rapid and useful functioning This explains the piling up of the cells in certain parts

Archiv f Gynakologie, Berlin

Last indexed XLII, page 1324

45 (LXXI No 3) Study of Blood Supply of Uterus etc , during Parturition O Schaeffer—Ueber die Blutversorgung der Gebärmutter vor und während des Geburtsbeginnes sowie über die Aenderungen der allgemeinen peripheren Blutmischung unter der Wehenthätigkeit
46 Ueber die Anwendung von Bossi s Dilatator C Hahl (Heinricius' clinic, Helsingfors)
47 Tarnier s 'Ecarteur utérin" und seine Anwendung O Heikel
48 Causes of Various Presentations F Schatz—Die Ursachen der Kindeslagen (Continued)
49 Zur Anatomie der Tubar Gravidität E Runge
50 (LXXII) *Festschrift
51 (LXXIII No 1) Die Beschaffenheit des Mesometrium bei Uterus Carcinom A Theilhaber and Hollinger
52 Erfahrungen über Tubar Gravidität (Bericht über 100 Fälle) L Zuntz (Berlin)
53 *Die Lymph Organe der weiblichen Genitalien und ihre Veränderungen bei malignen Erkrankungen des Uterus P Kroemer (Giessen)
54 Die Alexander Adams'sche Operation und ihre Dauer Resultate K Reifferscheid (Bonn)
55 *Remote Results of Delivery by Instrumental Dilatation H v Bardeleben (Gusserow's clinic, Berlin)—Spätfolgen des Entbindungsverfahrens mit schneller mechanisch instrumenteller Muttermundserweiterung

50 **Festschrift of Leipsic Obstetric Society**—The Leipsic Gesellschaft f Geburtshilfe recently celebrated its twenty fifth anniversary with much ceremony, Paul Zweifel presiding A Festschrift was published in honor of the occasion, a bulky volume of 578 pages, containing 22 articles, and printed as Vol lxxii of the *Archiv f Gynäkologie*, Berlin

53 **Lymph System in Uterine Cancer**—This monograph by Kroemer is very extensive and copiously illustrated with 37 figures and 6 plates, and a bibliography of 251 references, carefully sifted He proclaims that investigation of the glands should be the first step in surgical intervention Three requirements are essential 1, Exploratory excision to determine the indications for operating, 2, that patients treated by radical operation in whom the glands are found microscopically degenerated should be classed apart from others, 3, the material coming to the dissecting table should be utilized for microscopic examination and comparison with the clinical records

55 **Remote Results of Instrumental Dilatation**—Buddeben's experience with instrumental dilatation to facilitate delivery has been very unfavorable In 5 out of the 6 cases there have been consecutive disturbing parametritic indurations and cicatrices, or recurring inflammation in the parts Four out of the total of 10 patients thus treated succumbed to pre existing complications

Monatshefte f praktische Dermatologie (Unna's), Hamburg

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56 (XXXVIII No 8.) *Connection of Human Epidermis Cells with Each Other and with the Corium E Merk —Die Verbindung menschlicher Epidermiszellen unter sich und mit dem Corium
57 (No 9) Ueber einige Fälle von Neurodermitis chronica linearis A Mibelli (Parma)
58 Mode of Action of Urotropin Köhler (Leipsic) —Weitere Beiträge über die Wirkungsweise des Hexamethylentetramin (Urotropin)
59 *What Do We Learn from the History of Hydriatic Treatment of Syphilis J Sadger —Was lehrt uns die Geschichte der Syphilis Hydriatik? (Commenced in No 7)
60 Chemistry of Elastin and of Elastin Staining A Pappenheim —Ueber den Chemismus der Elastinfärbung und des Elastins sowie das spezifische Prinzip der Elastinfarbstoffe (Commenced in No 7)
61 (No 10) Benign Sarcoid Formations on the Skin P A. Pawloff (Moscow) —Zur Frage der sogen gutartigen sarkoiden Bildungen der Haut (Boeck)
62 Treatment of Gonorrhea M Porosz (Budapest) —Die Behandlung des Trippers Bemerkungen über Acidum nitricum und Crurin
63 *Innerliche Darreichung von Ichthyol in 3 Fällen von Mykosis fungoides und hematologische Untersuchung 2 dieser Fällen um die Zeit ihres Beginns M Hodara

56 **Connection of Epidermis Cells with Each Other and with the Corium.**—Merk presents evidence to prove that the epidermis cells are connected with each other and with the corium merely by juxtaposition and a mucilaginous vehicle They can be dissolved apart the same as a flake of sputum from a china surface

59 **What Do We Learn from the History of Hydriatic Treatment of Syphilis?**—Sadger summarizes his conclusions in the statements that there are undoubtedly cases which have been cured by the combination of hydriatic procedures and careful dieting, but that years are required to accomplish this result It is still an open question whether it is possible for all cases The duration of treatment can be much shortened and its success, perhaps, first rendered possible by combining the hydriatic course with iodid or mercury and a careful diet This combination has a number of advantages over either alone The water treatment relieves intolerance to the drugs, and may possibly first render them effective The dosage may be reduced, as the hydriatic treatment enhances their efficacy and makes the skin more receptive The water course expels the mercury from the system as soon as it has accomplished its purpose and hardens the patient to climatic changes The general health also benefits materially, the various phases of the syphilis are shortened, and the subjective prodrome banished. The indurations are rapidly and permanently dispelled The special domain of hydriatic procedures in syphilis is in cases of severe mercurial intoxication

63 **Ichthyol Internally in Mycosis Fungoides.**—In a very severe typical case of mycosis fungoides, Hodara administered ichthyol internally—5 to 15 gm a day—for two years and then only during the summer for three more years Marked improvement was evident from the first, and the patient is now practically cured She was a woman of 60, who had suffered from the affection for six years previous to commencing taking the capsules of ichthyol Similar benefit was attained in another case, and a third patient was also practically cured, but arsenic was given at the same time in this case The diagnosis of mycosis fungoides was confirmed by the finding of a mononuclear leucocytosis The ichthyol promptly relieved the itching in every instance

Münchener medicinische Wochenschrift

64 (LI No 25) Chemical Processes Involved in Action of Light on Fluorescent Substances and the Import of These Processes for the Action of Toxins W Straub (Leipsic) —Ueber chemische Vorgänge bei der Einwirkung von Licht auf fluoreszierende Substanzen (Eosin und Chinin) und die Bedeutung dieser Vorgänge für die Giftwirkung
65 Action of Photodynamic Substances on Bacteria. A Jodlbauer and H v Tappeiner —Ueber die Wirkung photodynamischer (fluoreszierender) Stoffe auf Bakterien
66 *Behavior of Neutrophile Leucocytes in Infectious Diseases J Arneth —Zum Verhalten der neutrophilen Leukozyten bei Infektionskrankheiten
67 Relations Between Chemical Constitution and Hypnotic Action A New Series of Hypnotics G Fuchs and E Schultze.—Beziehungen zwischen chem Konstitution und hypnotischer Wirkung Eine neue Reihe von Schlafmittel
68 Zur Kenntnis des Herpes Zoster bei kruppöser Pneumonie Riehl
69 The Gaertner Test for Determining Pressure in Right Auricle Peters (Erb's clinic, Heidelberg) —Ueber die neue klinische Untersuchungsmethode von Prof. G zur Messung des Druckes im r Vorhof
70 Die Orthodiagraphie und Perkussion des Herzens (of heart) Schlile (Freiburg)
71 Suprapubic Cystotomy for Prostatectomy J P zum Busch (London) —Die Entfernung der vergrösserten Prostata vom Blasenschnitt aus

66 **Behavior of Leucocytes in Infectious Diseases**—Arneth reiterates his previous announcements that the methods of research on the blood count at present in vogue are absolutely inadequate He has established that the neutrophile leucocytes, instead of belonging all to one class, must be further classified according as they possess one or more nuclei He has found that these subclasses predominate in a characteristic manner in various infectious diseases, as is shown by 276 tables which he has compiled, each representing the examination of 100 neutrophile leucocytes In a case of miliary tuberculosis he found that nearly all the neutrophiles belonged to the classes with one or two nuclei, and many of these nuclei showed morphologic changes During the entire course of the disease these findings were obtained every time, although the number of leucocytes was normal On the other hand, in a fatal case of traumatic tetanus the neutrophile findings corresponded to the normal average in every particular, even after treatment with Tizzoni's antitetanus serum In cases of varicella, measles mumps, erythema nodosum, etc, the findings showed that these infections are liable to cause severe injury of the neutrophile blood picture, although the total number of neutrophiles may correspond to the normal figure In classifying the neutrophiles he arranges his tables in 5 groups Group 1 (neutrophile leucocytes with one nucleus), with the subdivisions of, M (myelocytes), W (cells with nuclei only slightly hollowed out), and T (cells with nuclei much hollowed out) Group 2, neutrophiles with 2 nuclei, has three subdivisions, 2K (nucleus in 2 parts), and 2S (2 loop like parts), and 1K, 1S Group 3 has four subdivisions, Group 4 has five, as also Group 5 The average normal neutrophile findings determined by research on 15 healthy subjects is, in Group 1, M=0, W=.2, T=5 Group 2 is 2K=27, 2S=23 46, 1K, 1S=11 62 Group 3 has 3K=2 27, 3S=5 6, 2K, 1S=16 66 2S, 1K=16 4 Group 4 is, 4K=3 8, 4S=07, 3K, 1S=6 4, 3S, 1K=1 6, and 2K, 2S=4 73 Group 5 is, 5K=1, 4K, 1S=4, 3K, 2S=.4, 4K, 2S=07, and 3K, 3S=07 The average in round numbers is thus 5 per cent in Group 1, 35 per cent in Group 2, 41 per cent, in Group 3, 17 per cent in Group 4, and 2 per cent in Group 5 The article issues from von Leube's clinic at Würzburg It is supplementary to a monograph which Arneth has recently published in book form

Wiener klinische Rundschau, Vienna.

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72 (XVIII No 15) *Relations Between Appetite and Secretion of Gastric Juice A Meisl —Ueber die Beziehungen zwischen Appetit und Magensaftsekretion (Commenced in No 14)

73 Tabes und Syphilis, mit bes Berücksichtigung der Verhältnisse von Bosnien und Herzegovina C Hodlmoser (Commenced in No 13)

74 (No 16) Malformations of Female Genitalia L Stolper —Ueber Miszbildungen der weiblichen Geschlechtsorgane (Commenced in No 15)

75 *Beitrag zur diagnose der Arteriosklerose des Zentral Nerven Systems J Hnatek (Prague) (Commenced in No 11)

76 (No 17) *Influence of Sewing Machine Work on Health Nussbaum —Ueber den Einfluss der Nähmaschienenarbeit auf das körperliche Befinden

77 (No 18) *Failures in Treatment of Gonorrhea D Finger Ueber Misserfolge bei der Gonorrhoebehandlung (Commenced in No 17)

78 (No 19) *Neuere Beiträge zur Behandlung der Cholelithiasis mit Chologen J Winterberg

79 (No 20) Zur Therapie des Keratokonus Elschnig

80 (No 22) Various Structure of Cell Nucleus in Higher and Lower Organisms L Feinberg (Berlin) (Commenced in No 16)

81 (No 23) *Causes of Gout. Falkenstein —Ursachen der Gicht

82 Quinin as Oxytocic A Wiesner —Zur Kenntnis der Wirksamkeit des Chinins als Weheumittel Geburt von Zwillingen mit Pause von 24 Stunden (Commenced in No 22)

83 Favorable Effects of Antitussin in Whooping Cough N Swoboda —Ueber die Behandlung des Keuchhustens mit Antitussin

84 (No 24) *Results of Immunization with Separate Elements of Blood A Klein (Vienna) —Ueber Resultate von Immunisierungen mit getrennten Bestandteilen des Blutes

85 *Color Hearing H Chalupecky (Prague)

86 *Zur Lues des Nerven Systems A Buraczynski (Commenced in No 18)

87 (No 25) Die Aetiologie der Lungen Tuberkulose von Weismayr

88 Fracture of Clavicle in Normal Birth Wohl —Schlüsselbeinfraktur bei normaler Geburt

89 Ueber die Heilwirkung der Akrato Thermen R Beck

90 Helmitol Hetralin und Acidum nitricum bei Gonorrhoe und Cystitis J Bindermann

72 **Appetite and Gastric Secretion** —Meisl remarks that the study of metabolism is incomplete unless we take the appetite into account at the same time It is a hitherto neglected but most important factor in the metabolism He regards it as an impulse from the cortex, inciting various reflex acts as it passes through the sensory centers, which are of the greatest importance for the utilization of the food It stimulates the secretion of saliva long before the influence of the ingredients of the food can be felt in this line, prolonging and enhancing the enjoyment of the food and getting the food into the best possible condition for its utilization in the stomach The appetite is the inciter of the "appetite gastric juice," without which the digestion of bread and albumin in the stomach is entirely impossible, and the digestion of milk and meat is a much slower and weaker process The appetite further increases the secretion in the pancreas and arrests the inhibitions which are liable to hinder the functioning of the pancreas And, finally, the appetite leaves behind it an agreeable mood, in which the cortex functionates more perfectly, and any inhibiting influences which may have previously existed are suspended The appetite is the highest phase of development of an instinct If we obey its mandates it not only affords us enjoyment, but it has a vivifying and stimulating action on the functions of all the organs, especially those of the cortex It is the highest mental evolution of the need of food, and is for the preservation of the individual what sexual love is for the preservation of the race

75 **Diagnosis of Arteriosclerosis of Central Nervous System** —Hnatek describes 2 cases In one, a patient with a suspicion of lues, but not the slightest indication that the brain was involved, was suddenly seized with headache, vomiting, vertigo and numerous subcutaneous hemorrhages Two weeks later there was also a weakness in the feet and in the bladder functions, followed in a month with nystagmus, partial oculomotor paralysis, dysphagia, anarthria, glossoplegia, anesthesia *of* tongue, right facial paralysis and spasmus nictitans There was no paralysis of the legs, but much weakness Death occurred in the course of ten weeks The patient was a woman of 38, with general lipomatosis, and the necropsy revealed *general arteriosclerosis*, most pronounced *in the vessels of the base of the brain*, with hypertrophy of left heart and dilatation of right ventricle Among the more striking *symptoms* was the high blood pressure, the difference in the pulse between symmetrically located arteries, which amounted at times to *ten beats*, and the so called stability of the pulse—*that is, the lack of* variation when the subject changed from the reclining to the upright position, or *vice versa* In the other case described the symptoms pointed to a tumor in the brain, with general arteriosclerosis, but the necropsy revealed extensive arteriosclerosis *of the vessels of the brain*, with consecutive, recent foci *of softening* in the white substance and in the gray nuclei with a *tendency to cyst formation*, malacia of the pons, hypertrophy *of the left heart and acute hemorrhagic nephritis* *The* patient *was a woman of 42* The incipient choked disc had been accepted as evidence of a tumor in the brain

76 **The Sewing-Machine and Health** —Nussbaum refers to statistics and his own experience to show that the position at the machine and the constant use of the legs are liable to cause congestion in the female genitalia and consequent inflammation The menses are frequently very irregular, and abortions, inflammation of the adnexa and other gynecologic troubles are unusually prevalent in this class of working women He advises that they should take especial pains to sit erect and breathe deep, frequently rising to change their occupation or to step out of doors or practice respiratory gymnastics Good ventilation and illumination *are particularly necessary for persons* who *have to use the sewing machine constantly*

77 **Failures in Treatment of Gonorrhea** —Finger mentions instances in which the gonococci had retreated to the prostate, where they remained, few in numbers and scarcely at all virulent, not causing the bearer the slightest trouble or even suggesting its possibility Marriage, however, was followed by infection of the wife The posterior urethra and the prostate are the usual sources of late trouble, and neglect of this possible localization may entail the severest consequences

78 **Treatment of Cholelithiasis with Chologen** —Winterberg's experiences with Glaser's chologen were eminently favorable He found it particularly effective in the cases of small calculi and also in certain gastric affections which simulated cholelithiasis, but vanished completely under the influence of chologen Its most important use, he thinks, is in prophylaxis, and he witnessed fine results in warding off cholelithiasis in the predisposed by its use

81 **Causes and Treatment of Gout** —Falkenstein attributes gout to malfunction of the glands in the stomach which produce HCl This results in defective digestion and defective metabolism in general, with the syndrome of gout as the final outcome The therapeutic indications are to supply the missing hydrochloric acid Treatment on this principle has been always well borne by his patients during the two and a quarter years since he made this discovery The treatment prevents the formation of new deposits, and in time—by the improvement in the general health—*it enables the organism to dis*pose of the old deposits *The subjects should not eat too much* or too frequently, but *otherwise may* eat ordinary diet, avoiding indigestible articles, fat food, cheese, eggs and the internal organs of animals on account of their large proportion of nuclein Sugar should also be strictly avoided Persons with a tendency to gout should avoid sugar in any form, either in ice cream, cake, candy or in any article of food With care in these respects, and constant taking of hydrochloric acid to supply the missing factor in digestion, the intervals between the attacks of gout become longer and longer, until finally the subjects find themselves entirely free and well

84 **Results of Immunization with Separate Elements of *Blood*** —*Among* the results reported we note that the tests dem*onstrated* the non identity of serum precipitin and erythro precipitin

85 ***Color Hearing*** —Chalupecky argues that the phenomenon of color hearing is merely a dual sensation, the result of exceptional *sensitiveness* on the part of the cortex—a *slight* exaggeration of the physiologic condition It is akin to the cold shiver that runs down the back in connection with certain sensations—another dual perception

86 ***Syphilis of* Nervous System** —Buraczynski's article is based on 20 cases The age of the patients was between 19 and *30 in 11*, between 30 and 40 in 7, and only 2 were over 40 *In* one case the infection seemed to have *originated* in the tonsil *In 18 cases* there were other manifestations of syphilis, but 4

were apparently exempt There were no neuropathic antecedents in any instance, and the heart and lungs were sound In 13 of the cases the nervous symptoms appeared within a year, in 4 they were not manifest until the third, fourth, sixth or tenth year Only 10 patients had received previous treatment, and it had been very inadequate in the majority His experience shows that continuous, energetic specific treatment will accomplish a complete cure in time in the majority of cases Some of the patients refused treatment, and he longs for obligatory measures for such cases One case of endarteritis terminated fatally, as no treatment had been attempted, the syphilitic nature of the affection not having been recognized In another case of ignored syphilis the first nervous symptoms were intense pains in the left foot The sciatic was found sensitive its entire length, knee jerk present, but weaker on the affected side The pains subsided under potassium iodid and vanished completely with inunctions Four similar cases have recently been published, the nocturnal type of the pains was an aid in diagnosing In another case facial paralysis was observed the second month after infection It developed slowly and was accompanied by headache, worse at night, all the symptoms vanished under inunctions The syphilitic nature of the paralysis in this, and a second similar case, was demonstrated by the presence of secondary symptoms and the lack of other causes, the youthful age of the patients and the brilliant results of specific medication

Annali dell' Instituto Maragliano, Genoa

91 (I No 1) *Facts in Regard to Tuberculosis Demonstrated by Maragliano and His Pupils—Fatti dimostrati dagli studi sulla tubercolosi dal Prof Maragliano e dalla sua scuola
92 Description of Maragliano Institute for Study of Tuberculosis and Infectious Diseases Genoa 1900
93 *Sulla formazione di anticorpi specifici tubercolari in animali trattati con estratto acquoso di bacilli vivi I Marzagalli and F Figari
94 *Sopra un nuovo metodo per la sierodiagnosi della tubercolosi E Marzagalli
95 *Contributo allo studio dell immunita nella tubercolosi F Figari
96 Di un estratto oleoso a freddo dei bacilli della tubercolosi e della sua azione (value of oil extract of tub bacilli) M Sciallero
97 *I fenomeni di necrobiosi presentati dai bacilli tubercolari iniettati sotto la cute degli animali C P Goggia
98 Modificazione morfologiche dei bacilli della tubercolosi in soggetti refrattari immunizzati e curati col siero specifico antitubercolare M Sciallero

91 **What the Maragliano School Has Accomplished.**—Professor Maragliano has commenced the publication, in a special *Annals*, of the work accomplished by him, or under his direction, in the line of the study of infectious diseases, tuberculosis in particular The points already established are enumerated—fourteen in all They all have been duly chronicled in The Journal (See page 961 of the last volume) The crowning demonstration is that of the possibility of curing tuberculosis in man by inducing a defensive process analogous to that which occurs in spontaneous recovery, also that the defensive materials (antitoxins and antibodies), administered by the alimentary canal, pass into the circulation and confer immunizing properties on the organism into which they have been introduced, rendering it refractory even to intravenous injection of virulent tubercle bacilli

93 **Formation of Specific Antibodies in Animals Treated with Aqueous Extract of Live Tubercle Bacilli.**—This research was undertaken to see if it were possible to produce specific antibodies powerful enough completely to prevent the development of experimental tuberculosis A large number of rabbits and guinea pigs were the subjects, and the results showed that an agglutinating power of 1/2,000 had been conferred on the serum, and that the antibodies were capable of preventing the development and reproduction of tubercle bacilli both *in vitro* and in other animals

94 **Improved Technic of Sero-Agglutination in Tuberculosis.**—Marzagalli rinses the tubercle bacilli in cold water until all the culture material is washed away They are then triturated with distilled water and the emulsion is filtered through a Chamberland, after which the fluid is ready for the sero agglutination test

95 **Study of Immunization to Tuberculosis**—Figari found that animals rendered passively immune to tuberculosis by serum from other animals treated with the aqueous extract of live bacilli were able to withstand otherwise fatal doses of human tuberculous material On the other hand, animals rendered actively immune for a time proved in the end less resistant He explains this contradiction by the fact that in passive immunization we introduce into the system defensive substances which, superposed on those already in the organism, confer sufficient immunity for purposes of resistance But when we induce active immunity the formation of defensive substances is stimulated to such an extent that the elements of the tissues producing these defensive substances become exhausted by the extreme task imposed on them and are rendered more susceptible than is the case when these elements are not stimulated to such an extent

97 **Morphologic Changes in Tubercle Bacilli.**—The conclusions of Goggia's research may be summarized in the statement that the predominance of aberrant and necrobiotic forms of tubercle bacilli in the sputa is an encouraging sign, as it indicates that the organism is working vigorously in its own defense

Riforma Medica, Palermo and Naples.

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99 (XX No 18) Sull azione protettiva del pus contre le infezioni mortali R Binaghi (Cagliari)
100 Della percussione del torace ascoltata alla bocca (percussion of thorax auscultated at mouth) T Prodi
101 Bacilli simili tubercolari nel secreto delle otiti medie purulente croniche A. de Simoni
102 2 Aneurismi aortici migliorati colle iniezioni di gelatina E de Silvestri
103 Sclerosi a placche familiare R Massalongo Abstract.
104 (No 19) Intorno ad uno speciale tipo di infezione enterica da bacterium coli F Sicurani (Siena)
105 *Contributo alla cura degli ascessi polmonari ed alla esplorazione dei polmoni G Cavazzani (Venice)
106 Rupture of Hydronephrosis Simulating Appendicitis A Gaudiani—Rottura di una idronefrosi simulante appendicite
107 (No 20) Contributo allo studio dell epididimite blenorragica F Sprecher
108 Caso di psicosi uremica con sintomi coreiformi G Maggiotto
109 Intorno alla quistione delle nefrolisine A Ceconi and F Micheli Abstract
110 (No 21) Incision for Appendicitis Suspects A Signorelli.—Nel semplice sospetto di peritonite appendicolare si deve intervenire con laparotomia mediana o con il taglio obliquo laterale destro?
111 Contributo all ernia dell uretere S Rolando
112 Congenital Anomaly of Heart in a Pregnant Woman A Ferraro—Anomalia congenita di cuore in donna gravida (Commenced in No 20)
113 Cancro primitivo della milza (of spleen) G Baccelli Abstract
114 (No 22) Su di una alterazione speciale necrotica delle cellule epatiche nell' infezione tubercolare B Pernice.
115 Study of Streptothrix F Sanfelice —Tubercolosi e pseudo-tubercolosi.
116 Sulla prezenza di blastomiceti nella tubercolosi vegetante del naso (of nose) A De Simoni
117 Sulle parotite pneumococcica. O Pennato One case
118 (No 23) I corpi di Negri in rapporto all'etiologica e alla diagnosi della rabbia (Negri's bodies in rabies) L d'Amato Found constantly and exclusively in rabid animals
119 Incipient Primary Adeno-carcinoma in Appendix, Causing Repeated Attacks of Appendicitis F Neri—Caso d incipiente adenocarcinoma primitivo circonscritto alla mucosa e sottomucosa di un app etc.
120 Bacilli simili tubercolari nell adito faringeo degl individui sani A. De Simoni
121 Nuovo processo di gastroenterostomia G Masnata (Stradella) Abstract.
122 (No 24) Contributo all istologia patologica ed alla patogenesi dei corpi liberi articolari (free bodies in joints) G Lionti
123 *Respirazione dissociata P Grocco (Florence)

105 **Technic of Exploration and Operation on the Lungs.**—Cavazzani, in June, 1901, operated on a patient on account of an abscess of the lungs, and has since had occasion for intervention on a dozen more The results have been so gratifying that he recommends his technic for exploring the interior of the thorax without special apparatus and without fear of accidents It is based on the assumption that pneumothorax may be induced without fear of serious results, and the pleural cavity can then be sutured air tight, leaving two drains in it The air in the cavity is then aspirated through the drains and the openings closed air tight, or physiologic salt solution can be injected to displace the air and the openings be then closed air tight As the fluid is gradually absorbed the lung slowly expands to its

former volume By either means it is possible to explore and operate on the viscera inside the thorax without fear of complications from the pneumothorax He describes the details of his 13 cases In the first, he made a subperiosteal *resection of the* seventh rib, opening the pleura, incising the pleura and lung, evacuating an abscess the size of an orange, and tamponing The *cure was complete in three months* In his second case the abscess was small and at a depth of 7 cm from the surface He operated on the lungs of a child three times in one case, but the lesions were multiple and could not all be reached and the patient succumbed in time, as *in another case of lobular pneumonia* in a child In this case he mentions the return of resonance as the air in the thorax was aspirated and the *lung expanded after the operation* Case X was a woman of 27, presenting symptoms which had been variously treated as acute and chronic pneumonia Examination revealed a gangrenous abscess at the base of the upper lobe After resection of 9 cm of the *fifth rib the abscess was found at a depth of* 3 cm from the surface The cavity was the size of two fists It was tamponed and recovery was complete in three months The results of his operative intervention demonstrate that the thorax can be entered at any point in its periphery and can be explored without danger if the air that has entered is aspirated or displaced by a physiologic fluid He adds further that direct intervention on the lungs is feasible and practicable especially if the cavities left are filled with some harmless substance and the breach in the walls made as small as possible All his patients recovered except the 2 children

123 **Dissociated Respiration**—*Grocco studies the type of res*piration in which the physiologic co ordination between the movements of the diaphragm and those of the intercostal muscles is disturbed It is observed in endocranial affections and also in typhoid, pneumonia uremia, etc, that is it is liable to occur whenever the medulla is injured by the action of toxins congestions, asphyxia or infections He noticed it also in 2 cases of *neurotic respiratory spasm*

Vratchebnaya Gazeta, St Petersburg

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124 (XI Nos 3 4) Advantages of Braun's Adrenalin Cocain Anesthesia V J Gelnatz—*Nabludeniya nad adrenalin kokainovoi anesteziei*
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126 *Unusual Forms of Anthrax in Man E I Lintvareff—Nyes kolko ryedkikh slutchaev sibirskoi yazvi u tchelovyeka
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132 *K kazuistikye ognestryelnikh ranenii zheludka (fire arm wound of stomach) A S Zholkoff (Concluded)
133 (No 9) *Mikrogastria I A Bendersky
134 *Myringotomiya kak sredstvo ulutchshalushtchee slukh pri chron otitis media F T K Stephanovski (Concluded)
135 Contagiousness of Leprosy I I Hubert—O zarazitelnosti prokazi

126 **Unusual Forms of Anthrax in Man.**—Lintvareff reports 2 cases of anthrax of the lungs and digestive tract, mycosis pneumointestinalis, and 2 of malignant edema of the lids, with *one of malignant* edema with tetanus A differential sign of anthrax of the digestive tract or lungs is the observation of numerous small, circumscribed patches of cutaneous edema Anthrax bacilli can usually *be found in their* serous contents

128 ***Salicylates in Chorea Minor***—Four cases are related to illustrate the favorable effects liable to be attained by systematic salicylic medication

129 **Mosquitoes and Malaria**—Mosquitoes are numerous at the mouth *of the* Don river and malaria is prevalent but Zlatogoroff calls attention to the fact that the majority of cases occur during the spring months when the mosquitoes are comparatively rare At the *same* time, the transmission of the disease by the mosquitoes was beyond question, but some other factors may co operate in some cases

131 **Diphtheria of Puerperal Uterus.**—In the case described the patient had fever after instrumental delivery with decapitation of fetus at term Examination the sixth day showed a thick false membrane covering the mucosa of the uterus and plugging the os Diphtheria bacilli were found in it with pus cocci Serum treatment was instituted the ninth day and the patient was dismissed in good condition six days later

132 **Firearm Wounds of Stomach**—A young man fired a bullet from a revolver into his own chest It entered the sixth left interspace, but under expectant treatment was evacuated in the stools a few days later, and recovery was soon complete There had been only a little fever the first few days

133 **Microgastry**—Bendusky calls attention to the possibility of the stomach being congenitally very small and retaining its infantile type He thinks the condition is more liable to occur in women—*similarly to an infantile uterus*

134 **Myringotomy**—Stephanovski illustrates his technic and describes 16 cases in which he applied it to cure deafness resulting from chronic otitis media The deafness was completely cured in 12 5 per cent *and materially improved in 62 5* per cent, while the subjective sounds in the ears were partially or entirely banished in all No inconveniences of any kind were noticed after the paracentesis

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Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed *by us a full equivalent to those sending* them A selection from these volumes will be made for review as dictated by their merits or in the interests of our readers

A SYSTEM OF PRACTICAL SURGERY By Prof E von Bergmann M D P von Bruns M D and J von Mikulicz M D Volume IV Translated and Edited by William T Bull M D Professor of Surgery College of Physicians and Surgeons Columbia University New York Edward Milton Foote M D Instructor in Surgery College of Physicians and Surgeons Columbia University New York Carleton P Flint M D and Walton Martin M D Surgery of the Alimentary Tract *Cloth Pp 757 Price, $30 per set* 5 volumes New York and Philadelphia Lea Brothers & Co 1904

THE OPTICAL DICTIONARY An Optical and Ophthalmological Glossary of English Terms Symbols and Abbreviations, Together with the English Equivalents of Some French and German Terms Relating to Physical Physiological and Pathological Optics Optical and Other Instruments of Precision and Terms Descriptive of Color and Photo-chemistry to Which Are Added a Number of General and Mathematical Expressions Edited by Charles Hyatt Woolf F R P S Cloth Pp 166 Price, $1 00 net Philadelphia P Blakiston's Son & Co 1904

A TEXT BOOK OF ALKALOIDAL THERAPEUTICS, Being a Condensed Résumé of All Available Literature on the Subject of the Active Principles Added to the Personal Experience of the Authors By W F Waugh, M D and W C Abbott M D with the Collaboration of E M Epstein M D Cloth Pp 405 *Price, $5 00 post* paid Chicago The Clinic Publishing Co 1904

THE THEORY AND PRACTICE OF INFANT FEEDING, with Notes on Development By Henry Dwight Chapin A M M.D Professor of Diseases of Children at the New York *Post graduate* Medical School and Hospital Second Edition Revised With Numerous Illustrations Cloth Pp 342 Price, $2 25 New York Wm Wood & Co 1904

A TREATISE ON APPLIED ANATOMY By Edward H Taylor, M D (Dublin Univ) F R C S I Surgeon to Sir Patrick Dun's Hospital Illustrated with 178 Figures and Plates from Original Drawings Many Printed in Colors Cloth Pp 738 Price, $9 00 London Charles Griffin & Co Philadelphia J B Lippincott Co 1904

FUR DIE TURKEI Selbstgelebtes und Gewolltes von Dr Robert Rieder Pascha a o Professor der Chirurgie an der Universität Bonn z Z Generalinspektor der Kaiserl ottom Medicinischulen und Direktor des Krankenhauses Gülhane in Konstantinopel Bd II Paper Verlag von Gustav Fischer in Jena 1904

THE DOCTOR'S RED LAMP A Book of Short Stories Concerning the Doctor's Daily Life Selected by Charles Wells Moulton Cloth Pp 343 Price $2 50 Chicago, Akron New York The Saalfield Publishing Co 1904

TWENTY SEVENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY and Report of the Bureau of Vital Statistics 1903 Cloth Pp 682 Somerville, N J Unionist Gazette Association 1904

TRANSACTIONS OF THE THIRTY FIRST ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, *Held in Roanoke Va., Sept 15 17* 1903 Cloth Pp 362 cxx Richmond Va Williams Printing Co 1904

FOURTEENTH ANNUAL REPORT OF THE EYE, EAR, NOSE AND THROAT HOSPITAL, 1903 Jan 1 1903 to Dec 31 1903 Paper Pp 61 New Orleans A W Hyatt Stat'y Mfg Co, Ltd. 1904

REPORT OF THE SUPERINTENDENT OF GOVERNMENT LABORATORIES IN THE PHILIPPINE ISLANDS for the Year Ended Sept. 1 1903 Paper Pp 278 *Bureau of Insular* Affairs War Department

TRANSACTIONS OF THE MEDICAL SOCIETY OF DELAWARE 1903 Paper Pp 43 Wilmington Del Sunday Star Print 1904

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Original Articles.

ERGOT IN GENERAL PRACTICE*

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JAMESTOWN, N Y

The chief object of this paper is to demonstrate that inefficient tone of unstriated muscular fiber is a common and serious element of disease, and that it is important to guard against, or to correct, such abnormal state of that tissue

The secondary object is to show that a drug which has been used therapeutically for three centuries for a single purpose, and for three decades for but one additional purpose, is the best medicinal agent at our command with which to tone the weak, relaxed, or paralyzed unstriped fiber, and, therefore, deserves, without exception, the first place, the place of honor and trust, in the physician's emergency case

The most common manifestation of atony of the unstriped fiber is an abnormal disturbance of the equable distribution of blood throughout the body The relation of the blood supply to the several organs or regions of the body varies normally (physiologically), dependent on their special functional activities at any given time, but such variations are included in what I term "the equable distribution of blood," and they do not imply any degree of atony of the muscular coat of any blood vessels

It is well recognized that a supreme activity in one region determines a more rapid or abundant flow of blood through that region and a lessened blood supply to other parts witness the mental apathy or somnolency accompanying the good digestion of a full meal

The abnormal (pathologic) disturbance of blood distribution is quite another thing, and depends on a relaxed state of the muscular coat of the blood vessels of some region or regions The location, degree and persistence of such vascular relaxation, alone or together with the influence of bacteria, autotoxins or other irritants, or of cold, heat, moisture, altitude, fatigue, traumatism or other etiologic factors, determine a great variety of diseases most of which would not occur if there were a good degree of tone in all vascular walls

A relaxed state of unstriped fiber elsewhere than in blood vessels and lymphatics as in the bowel and other hollow organs produces other disorders which indicate the same object in therapy, namely, a stimulating or toning of unstriped muscular fiber

A very small percentage of humanity is absolutely well which is practically equivalent to saying that as small a percentage has a good state of tone of all the unstriped fiber of the body, which is again equivalent to saying that disease in general depends on atonic unstriped fiber You are probably now thinking of bacteria, but of that bugbear later

One of the most common illustrations of abnormal blood distribution is "poor circulation," which is the passive form of too much blood in one region and too little elsewhere, and chiefly serious because it is a good soil on which to sow the seeds of disease The commonest active form is in "a cold," which ordinarily is evidenced in a simple catarrhal inflammation I am not aware that a bacillus has as yet been caught in the act of producing "a cold"

It will be more convenient to make some classification in treating this subject, and I will begin with disorders of blood vessels

DISORDERS OF BLOOD VESSELS

Inflammation of arteries, veins and lymphatics implies an abnormal disturbance of equable blood distribution, in that the minuter vessels of the inflamed or congested vascular walls are relaxed, dilated, and contain too much blood

Endarteritis—An interesting illustration in this department is a series of cases of endarteritis which I have encountered, involving a portion or portions of the abdominal aorta or its principal branches, the common iliacs, or their branches, the external iliacs The chief subjective symptoms were pain and shock the patient sometimes fainting, but more frequently only reaching the verge of that crisis Palpation disclosed one or more localized sensitive spots in the artery, and firm pressure usually produced pain in the back, opposite the inflamed spot In one instance a chronic, intense pain at the *vertex capitis*, which had begun after an extreme exertion, was markedly increased by pressure on the inflamed spot of the abdominal artery

Auscultation demonstrated a distinct friction sound at the spot or spots previously found to be sensitive to palpation, but not apparent elsewhere The paroxysms of shock, or shock and pain, followed exertion, such as lifting a heavy article, or sometimes the mere effort of rising from a prolonged recumbent posture Recovery occurred only in those cases that accepted the extreme course I prescribed, namely, long-continued absolute rest for from two to five months, and daily injections of ergot

The heart's pulsations were thus markedly slowed and softened, which gave longer intervals of rest from and less friction of the blood current over the inflamed surface I detail these cases because I have not found them clearly described in the books nor could I get light on them from prominent physicians who examined some of the cases

Septic Conditions—Septic inflammation of veins and lymphatics has repeatedly yielded to the ergot treatment This does not imply any antiseptic quality in that drug In some instances I also employed the constant current

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*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee Drs J M Anders Frank Jones and W S Thayer

Dilatation of Veins—In dilatation of veins it is desirable to secure some emptying of the greatly stretched vessels by gravity or pressure in order to allow the shortening by ergot of the overstretched and paralyzed unstriped fiber of their walls

I will refer here to edema because it is the direct sequence of circulatory stasis from vascular dilatation Ergot is striking in its relief of this condition, and the more so the more recent the occurrence of the edema

Inflammation begins in congestion, which consists of an area of abnormally dilated blood vessels If ergot is promptly and sufficiently administered, the congestion is relieved and the succeeding stages do not occur, in other words, the inflammation is aborted When it is not applied, or not sufficiently applied, in the stage of congestion, ergot will modify or limit the extent of the succeeding stages, and it is also an effective aid in promoting the absorption of exudates, because this process demands a restricted caliber of capillaries and lymphatics, which ergot tends to secure by contracting unstriped fiber

FEBRILE DISEASES

A very extensive class of diseases, in which an abnormal relaxation or paralysis of unstriped muscular fiber is the prime factor, is the febrile, whether from zymotic, infectious, autotoxemic or other irritants I say that the abnormal state of the unstriped fiber is the prime factor, because it is that state that determines, in some way, the serious and fatal elements of those diseases

I distinctly appreciate that the generally accepted theory to-day is that the prime factor in these diseases is the bacterium, waste product or other irritant, but the deduction which I am obliged to make from a rational consideration of my clinical experience is that if a good degree of that state which we denominate "tone" exists in this class of fiber to begin with or is promptly secured by proper treatment to that end, the effects which would otherwise result from those irritants do not occur, or, if they have had opportunity to initiate, those results will be dissipated or modified by a proper thorough and persistent treatment applied to the restoring of tone in that unstriped fiber which is deficient in tone The serious and fatal elements of febrile diseases may be summarized under the following heads

First Congestion and the succeeding stages of inflammation, including unresolved exudates

Second Hemorrhage from ulcerative corrosion of tissues, or from rupture of weak or greatly strained blood vessels

Third Disturbed function of glands or other vital organs, including disturbances of digestion, assimilation and elimination

Fourth Insufficient oxidation

Fifth The so-called vasomotor pareses

Sixth Exhaustion and paralysis of the heart

Congestion—Congestion and its sequences will be admitted to be related to vascular atony for, if the vessels are not abnormally weak, they will not be abnormally dilated, and if not abnormally dilated, there is no congestion

Hemorrhage—The hemorrhage from ulceration is plainly thus related, for ulceration succeeds inflammation and inflammation begins in congestion The weakness of vascular walls leading to rupture is due in part directly to a relaxed state of unstriped fiber, which permits overstretching from increased tension, and, in part, to trophic defects, which, in turn, are due to relaxation of the minuter vessels

Disturbance of Glandular Function—The dependence of altered or deficient function of glands or other organs and tissues, on atonic unstriped fiber may not so clearly appear, but I can reach no other conclusion after observing the restoring of function by various means that relieve internal congestions and stimulate unstriped muscular fiber

Assimilation and elimination require for their best performance a caliber of the minuter blood vessels that admits of sufficient lymph spaces in which the nutritive and waste materials may circulate

Insufficient Oxidation—Oxygenation is too little considered in relation to disease Oxygen is desirable as a stimulant to vital activities, and is necessary to the normal chemistry of waste, and, not only does vascular relaxation in the lungs interfere with the access of air to all the air cells, from which the oxygen is transferred to its carriers in the blood, but wherever there is congestion in the general vascular circuit there is interference with the proper transference of that element from its carriers to the tissues of that region, or to the waste elements that require oxidation

Vasomotor Pareses—As to the essential condition in the so-called vasomotor pareses, whether it lies wholly in the abnormal state of the unstriped fiber in the dilated blood vessels of the general circulation, or, in part, in an abnormal state of the vessels of the vasomotor centers, or partly in an exhausted state of the vasomotor centers, as vital batteries, I will not assume to say but this I will say, that stimulation, by the constant current of the vasomotor centers related to certain areas of the circulation, as of the brain, will correct the abnormal vascular areas so related, and that ergot which, I believe, acts directly on the abnormally relaxed unstriped fiber, accomplishes the same end, and that ergot is applicable to the abnormally relaxed fiber anywhere in the body, which is not practicable as to the constant current, and also that the usually employed medicinal agents, of which strychnin, digitalis and alcohol are the chief representatives, are unreliable and very often fail to accomplish the end desired Furthermore, that in serious states of cardiac exhaustion the usually employed stimulants are even detrimental and frequently directly determine death, because, while failing to correct the vascular defects which have produced the exhaustion and which, so long as they exist, will continue to oppose the heart, they add to its exhaustion by irritatingly prodding it to its utmost additional effort, which, continued, must lead to its utter failure

Exhaustion of the Heart—Exhaustion of the heart is generally treated as if it depended solely on waning force in the heart centers, which are, therefore, stimulated with all the armamentarium at command, which more frequently results in increasing its exhaustion than in diminishing it

The change effected by ergot in the action of the heart, as to a great variety of its abnormal manifestations including the very weak, and even absent pulse and the extremest tension, so great that the radial artery seemed ready to burst, has impressed me that the condition which produces cardiac exhaustion and paralysis is the abnormally relaxed state of some part or parts of the general vascular circuit, and that the indication is to correct that abnormal state rather than to depend solely on forcing the heart to greater effort by administering heart stimulants Very often such correction will be all that is necessary, but when that does not suffice, a judicious use of heart stimulants will be rational after such correction, when their use, before the vascular system is toned, would be as distinctly irrational

On the other hand, when the action of the heart is excessive and the vascular tension high, ergot will be calmative to the heart and diminish the vascular tension, by correcting the abnormal state of the circulation existing somewhere, that had been the irritating excitant of the heart, and I hold that this is more rational than the use of depressants for such purpose In such conditions of high vascular tension I have never found it necessary, after using ergot, to resort to depressant medication

From what I have said it will be recognized that I do not regard the raising of blood pressure as the *sine qua non* in states of low vascular tension, as in shock or collapse, but that the true *desideratum* in such states is to bring about an equable distribution of blood throughout the entire body by contracting all those vascular walls that are abnormally weak, relaxed and stretched, and this is the peculiar province of ergot

FUNCTIONAL NEUROSES

Another extensive class of diseases, in which the securing of an equable distribution of blood is the principal indication, is that denominated nervous, more particularly the functional neuroses

In a communication just received from Dr Adolph Rupp of New York, I am informed that Waring's Bibliotheca Therapeutica states that W Hamburger of Leipsic, in 1848, published a work on "The Extraordinary Curative Power of Ergot in Nervous Diseases" I am curious to see this work, published before I was born, and I will be greatly obliged to anyone who may put me in the way of obtaining it It apparently had as little influence on the profession at large as my own first published paper on ergot would have had but for the accidental presence at its reading of Dr Frederick Holme Wiggin of New York, to whose appreciative interest in the subject I am indebted for the wider interest the profession has since manifested

Beginning with the use of this drug in insanity, which I was taught by the late Dr John P Gray of Utica, I gradually extended its application by a process of analogic reasoning on similar pathologic elements (circulatory) in other diseases, until I finally grasped the general principle that in many nervous diseases there exists an abnormally relaxed state of some part of the vascular system, and that this is fundamentally causative of the symptoms commonly assumed to be related to abnormal states of the nervous tissues From this point of view many facts were rationally explained which I had not before clearly understood, and the more carefully I analyzed etiologic and pathologic factors and elements of these diseases the more assured I became of the correctness of this deduction

The principal symptoms that are associated with the so-called nervous diseases are pain, nervousness (including irritability, both mental and physical, and restlessness), spasm, convulsion, delirium, insanity, insomnia, stupor, or coma, disturbed function of sensory, motor, or vasomotor nerve tissue, and the various pareses

As generally applicable, the statement that "pain is the cry of nerve for food," is poetry of the Keats or Shelley type, highly imaginative The deduction I make from my own observation is that pain is usually a result of pressure, and that the causative pressure is usually from congested blood vessels The fact, however explained, is that most pain is relieved by administration of ergot Ergot contracts relaxed unstriped fiber, and the relaxed unstriped fiber of blood vessels is surely the most likely to be associated with pain.

Headache, as the most common form of pain, deserves especial mention as one of the kinds of pain which is almost uniformly relieved by ergot

The pain of pneumonia, of appendicitis, of neuritis, of inflammatory states in general, of some neuralgias, the all-over ache or indefinite discomfort of developing fevers, the agony of angina pectoris, and intestinal colic, are among the kinds of pain that ergot relieves, and, therefore, are doubtless due to relaxed unstriped fiber, chiefly in vascular walls

Nervousness, from its simplest type to the intense agitation of the reaction from alcoholic and drug addiction, is strikingly amenable to ergot, and indicates that motor as well as sensory functional disturbance is related to a disordered state of the unstriped fiber, and this is still more markedly demonstrated by the relief of spasm and convulsion by the same drug

Insomnia is generally conceded to be due to abnormal vascular states in the brain While I am writing, a subject is sleeping who fell asleep before I had completed the first injection of my solution of ergot (two fluid drams), which I administered within half an hour of his coming under my care That hypodermic injection was given at 10 p m, April 30, and it is now 4 p m, May 2 He has slept continuously during the forty-two hours, except when aroused to give him food or medicine The subject, a physician, has been a drug habitue for several years, and has latterly been using hypodermically a dram or two drams of morphia *per diem,* and, in addition, two drams or more of cocain each week. During the last day, April 30, he used two drams of morphia and a considerable quantity of cocain The sleep has been natural in appearance, and, though awakened with some difficulty, he was clear and calm when awake, and immediately fell asleep after taking what was given him The pulse has ranged from 64 to 80, and has been of good quality, and only a few times was a little spartein added to the ergot solution He has had no morphia nor other narcotic, nor any hypnotic[1] I do not class ergot as a hypnotic, but if you

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[1] The case referred to is illustrative of the action of ergot in the general class of drug habit cases. At the end of sixty hours the crisis was passed and without a particle of suffering or delirium, or even of heart depression in spite of the immediate complete withdrawal of the extensive dosage of the drugs The sixth day he began to come to my office for treatment, static and constant currents and at the end of the second week he removed to the country where, at a farm house and living much out of doors eating and sleeping well he is gaining rapidly in flesh color and spirits He does not recall nor did he at any time manifest a desire for his drugs or substitutes.

Another habitué a woman is now under like treatment in the same public hospital and with the same satisfying results

Besides ergot the only treatment in either case has been cathartics laxatives and digestives dry cupping hot and cold sponging of spine and the constant or static current. The important work was accomplished by ergot

Abstract of record sheets of W C A. Hospital Jamestown, N Y

Case of H. L F admitted 9 30 p m April 30 1904

10 p m after tub bath was given 10 grains of blue mass followed by ergot solution, 2 drams (all ergot was given hypodermically)

May 1 1904 Slept soundly all night.

At 10 a. m. 2 5 and 8 p m ergot, 1 dram, the first three with sparteine, 1/10 or 1/20 grain Action of bowels secured with saline and enema. Liquid diet every three or four hours F E. Buckthorn 3 drams nocte. Pulse ranged from 64 to 80 temperature 6 p m. 99 8 F

May 2 4 30 a. m. "Sleeping soundly until now Wanted morphia this a m. 7 30 a m. Sleeping most of the time. 6 30 p m Very restless for two hours 8 p m Nauseated know of any other drug that will permit or procure such sleep in such a case, it is surely your duty to make it known to the profession

Promotion of sleep of a normal character, when ergot has been administered for some other purpose, has been noted hundreds of times in my experience, and this has been one of the most positive characteristics of the drug, from which I deduce that normal sleep is an accompaniment of a certain state of closure of the vessels of the brain, reducing the quantity of blood in that organ below that which is associated with the activities of the waking state

A recent case, illustrating the relation of ergot, and, therefore, of relaxed unstriped fiber to insomnia, delirium and pain, is worth relating

I was called to a neighboring city to see a man in whom these three symptoms had existed for six days His history evidenced that he had been nervously exhausted from overwork, and, while away from home on a business errand, he had an attack of influenza, the temperature reaching 103 F He apparently had some realization of the mental disturbance, as he had repeatedly said that if the pain continued much longer he would become insane Before I had finished giving him the first hypodermic of ergot he said the pressure in his head was relieved There was no delirium after the first hypodermic of ergot He slept, which he had not done from hypnotics and opiates The severe pain in head and back, which had not been relieved by the opiates, was promptly relieved by the ergot and soon dissipated His treatment, in addition to ergot, was one dry-cupping along the spine and clearance of the bowels by a mercurial and salines

SURGICAL CASES

I might enumerate other disorders or classes of disease to which relaxed unstriped muscular fiber is importantly related, but I will speak of but one more class in which it plays a serious and often fatal rôle, because the indication is not properly met. I refer to conditions requiring surgical operation, and I do so under the title of this paper because it is the general practitioner who should so thoroughly appreciate the indications and the means with which to meet them that, when the case is passed over to the surgeon, it is already prepared both for anesthesia and operation The surgeon's relation to a case is so often at the last moment that there is then no time for the preparation that I believe to be important, namely, the toning of whatever unstriped fiber may be lacking in normal tone

The important objects attained by this preparation of surgical cases are

First A more safe and comfortable anesthesia, avoiding nausea, retching, vomiting, mental excitement and excessive heart strain

Second Avoidance of shock from anesthesia or operation

Third Relief of shock from traumatism

Fourth Avoidance or modification of post-operative pain

Fifth In certain cases, avoiding intestinal paresis

Sixth In all cases, promotion of the process healing

In all these there is certainly a most urgent demand for a good state of tone in the unstriped fiber involved

The evidence afforded by the action of ergot in shock is that the condition is not so much a paralysis of vasomotor centers as it is a tremendous disturbance of the equilibrium of the circulation, the internal vessels being extremely engorged, rendering the efforts of the heart practically futile The indication is, therefore, primarily, to contract the dilated and engorged vessels which will send their excess of blood to the peripheral vessels, which again establishes an active circulation, the obstacle to the heart being thus removed It may then be found that the heart needs more stimulus than it can get from the exhausted nervous batteries, in which case the secondary indication appears, namely, for a judicious use of heart stimulants

I recognize that according to the prevailing theory today the prime indication is to raise blood pressure but I think that this theory will be found to be erroneous

Until an approximately equable circulation (equable distribution of blood) has been secured, the raising of blood pressure will generally be detrimental, even though it temporarily increases the force of the heart's action, and the subject will be all the more certain to die

METHODS OF TONING UNSTRIPED MUSCULAR FIBERS

From all that I have said it will be recognized that I regard the toning of relaxed unstriped muscular fiber as important in a great variety of diseases, and of vital import in many instances As to the means by which such toning may be accomplished, you have possibly guessed one that I have in mind, but there are others

Electricity—Electricity in general, but the constant current in particular, is of inestimable value to this end, and applicable in many more instances than is likely to appear at first thought to the occasional user of that force A truth which I clearly demonstrated in 1890, namely, that the constant current stores the individual with force, as it does the storage cell, is of much importance in this connection, namely that the constant current is essentially like the vital force in its effects on functional activities

Dry-Cupping—Dry-cupping aids materially in relieving internal states of congestion, directly, by withdrawing a considerable amount of blood (if several cups are applied) from the general circulation and indirectly by causing much damage to the superficial ves-

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vomited" (This followed and I believe was due to cocoa with milk at 5 p m A T L) Ergot 1 dram at 4 30 and 8 a m 12 noon and 6 p m sparteine twice At 9 p m "applied 10 dry cups to spine" Ergot 2 drams with sparteine Buckthorn 2 drams nocte 10 p m "Sleeping quietly" Pulse, 68 to 80 temperature 99 4 to 100 2 F Bowels and kidneys sufficiently active

May 3 5 45 a. m "Slept well till 5 a m not as soundly as previously about 7 hours" 12 noon 'Pulse full, nauseated 4 30 p m' Rochelle salts ½ ounce "Vomited small amount 10 p m "Has been sleeping quietly" At 1 and 5 a m 12 noon 5 10 and 10 p m ergot 1 dram first time with sparteine At 2 15 p m 'Galvanism' (10 cells, one hour) Pulse 70 to 74 temperature 99 2 to 99 6 F

May 4 5 a m "Restless and nausea Slept most of night about 6 hours ' 'Pulse full and good all night ' 2 30 p m "Galvanism" 11 p m 'Very restless" Ergot, 1 dram at 5 a m ½ dram at 2 and 11 p m Lactopeptin with nourishment Pulse 76 temperature 98 4 F

May 5 5 a m Quite restless early in night did not sleep as well as usual about 5 hours' Ergot ¼ dram at 8 a m 7 and 11 p m 1 45 p m, "Galvanism" Pulse 76 78 temperature 98-99 8

May 6 2 a m Very nervous legs aching restless not sleeping well" 7 a m, "Had poor night Did not sleep well Aching and tired this a m 10 30 a m 'Static treatment at Dr Livingston's office Ergot ½ dram at 2 4 and 8 a m 10 minims at 1 10 p m 1½ drams at 5 and 9 p m (Diet enlarged A T L)

May 7 "Slept about 5 hours'

May 8 'Slept about 5 hours '

May 9 'Slept in all 7 hours

May 10 "Slept most all night' 8 a m Pulse 84 temperature 98 5 F respiration, 18

(In the remarks note was not made of the frequent naps during the day which in part accounts for the less sleep at night May 14 'Removed to boarding house on lake" A T L) sels, the repair of which detracts from the abnormal internal activities

Hot and Cold Applications—The alternate brief applications of hot and cold water, or hot water and ice, over the entire length of the spine unquestionably tones the nerve centers, either directly or by stimulating their vascular walls, in either case indirectly toning the unstriped muscular fiber which they supply with force

Massage—Massage, by its mechanical impulse to the venous circulation and by the increased assimilative and eliminative activities produced in the massaged tissues, aids in securing a more equable distribution of blood throughout the body

Mercurial Treatment—Mercury, by its so-called 'portal stimulation," but more particularly, I believe, by its notable stimulation of glandular activity, also greatly tends to a more equable distribution of the blood

Ergot—I might continue to enumerate measures, physiologic or therapeutic, of more or less value in securing the desired object, but they will occur to anyone who thoughtfully considers his teaching and experiences, and I will refer, in conclusion, only to that one other, which is the chief, the direct, the specific, and the only universal stimulant and tonic to the weak, relaxed, stretched or paralyzed unstriped muscular fiber, namely, ergot

Having employed this drug during more than thirty years of practice, and in a constantly widening sphere of application, and having observed in thousands of instances its exceptional therapeutic power, and in scores of instances a power that suggested magic, because of the immediate and wondrous change it wrought, I have come to regard it as the one drug without which I would feel impotent in the practice of my profession

This confident reliance has developed from the recognition that the efficiency shown in so many and so varied states of disease, was because of a really simple and single therapeutic action, and that the existence of a localized or more general state of abnormal relaxation of unstriped muscular fiber is always an indication for, and should determine a broad, rational application of this drug

I recognize that some of my statements are likely to be regarded as extreme, perhaps as unwarranted, because not in accordance with general experience, but I also recognize that the difficulty of acceptance is wholly due to the limitation of the general experience, and I do not hesitate to rest my reputation on this broad proposition, that the general practitioner, surgeon or specialist, who does himself and his patients the justice to apply in his practice, fully, judiciously and fearlessly, the principles which I have endeavored to clearly express, will demonstrate for himself that ergot is capable of accomplishing all I have claimed for it and more, and that, besides being the great equalizer of the circulation, relieving pain, procuring calm and comfort, and promoting sleep, aiding repair, increasing elimination, supporting the heart, releasing the habitué from his horrible thralldom, and accomplishing many other desirable ends, to some of which I have elsewhere referred, it is, to a degree that can not be asseverated of any other drug, the saver of life

THE SOLUTION AND METHOD OF ADMINISTRATION

By an unfortunate blunder, for which neither The Journal nor myself was responsible, there appeared in connection with my paper[2] on "Some New and Unusual Therapeutic Applications of Ergot," a formula for a solution of ergot which has given much unnecessary annoyance and suffering, and has unfairly prejudiced both patient and physician against the drug I therefore desire to dissipate such impressions which are unjust to the drug by giving two formulæ, either of which I can commend, and neither of which, if properly prepared and applied, will cause sufficient hurt or inflammation to constitute a serious objection to even the most nervous and sensitive patient, especially when the exceptional therapeutic benefit is taken into consideration The first, which I have used long enough to test its keeping quality, is solid extract of ergot, one dram, dissolved in sterile distilled water, one ounce Filter this solution and afterward add two minims of the purest chloroform and shake gently This solution sometimes stings a little while being injected, but otherwise is satisfactory

The second is solid extract of ergot, one dram, dissolved in a saturated solution (about two grains to the ounce) of chloretone in sterile distilled water, one ounce After filtering the solution, add two grains of chloretone and shake gently

The added chloretone is to secure an abundance of the preservative, and this is the most satisfactory preparation I have ever used, because, being somewhat anesthetic as well as antiseptic, it will not hurt, if injected slowly, as all hypodermics of ergot should be given This solution, however, is given tentatively, as I am not yet assured that it will be perfectly preserved for a considerable time It is satisfactory for short periods I take from five to ten and sometimes even fifteen minutes to apply a hypodermic of ergot It pays to take this time because of the better therapeutic effect, since, curiously, although so marvelously potent if not interfered with, ergot is distinctly less potent if interfered with by anything which increases vascular tension, as the strain of bearing a hurt, physical or mental activity, or erect posture In general, it is much better that the patient be recumbent while the ergot is administered, and that posture maintained for half an hour or so after the administration I recommend only the alcoholic (pharmacopeial) solid extract for solutions for hypodermic use, and I caution against the acetic acid solid extract for such purpose

Even in the alcoholic solid extract there is a slight acidity which it is desirable to neutralize in order to have the most perfect result as to absence of hurt and local irritation, and this is accomplished by adding three or four minims of a saturated solution of chemically pure bicarbonate of soda to the ergot solution just before administering it I commend this measure only to the physician who is willing to be at some pains to avoid even a little hurt and succeeding annoyance to his patient. Another matter of importance in making the solution is asepsis, as watery solutions of ergot are extremely prone to develop bacterial or fungus growth All utensils, bottles, corks, filtering paper, etc, used should, therefore, be sterilized, and the same care should be exercised as to the syringe and needles when administering The dose for an adult is from one-half to two drams of the above solutions, and the assertions of my various papers as to effects are based on such solutions made from the pharmacopeial solid extract prepared by a reliable house I have experimented with some solutions supposed to be about five times the strength of my solutions, which were evidently not so, and clinical results alone can satisfactorily determine such relative strengths Confusion and disappointment are likely to result from such disparities in solutions prepared for hypodermic use, and it would be more satisfactory if all manufacturers adopted the same strength of solution based on pharmacopeial solid extract. After thirty years of strikingly satisfactory experience with ergot, I am unwilling to accept statements of the futility of the drug in an indicated case unless I know that a proper solution has been properly applied in proper quantities to the case The syringe used for ergot administration should be all glass with asbestos packing, and should be of capacity of from one to two drams The ideal syringe has not yet been made

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[2] The Journal A M A March 21 1903 p 774

DISCUSSION

Dr R H Montgomery, Youngstown, Ohio—I am surprised at the apathy with which this paper is received I am sorry that it is buried under an avalanche of gallstones In our hospital the use of ergot has been attended with the happiest results when used according to the indications pointed out by Dr Livingston

Dr J O Stranahan, Rome, N Y—The use of ergot in the insane institutions of New York, as mentioned in the paper, was first suggested by Dr Gray of Utica, N Y His experience of three years in the Hudson River State Hospital in cases of paretic convulsions proved this agent to be of value He had at one time 100 paretics, and he universally used this agent in solution immediately on the onset of the paretic convulsions These patients recovered consciousness sooner by the use of ergot, and the effect was very lasting In private practice I have followed this principle, and I must say that in these cases of cerebral congestion, particularly meningitis, there has been no drug which has served me so well as ergot

Dr H Grad, New York—My observation with the therapeutic action of aseptic ergot has been entirely with surgical cases, particularly its action on nausea following anesthesia and the concomitant shock of the operation I know of no other therapeutic measure that will control and mitigate the feeling of nausea following anesthesia as a few judiciously applied hypodermics of ergot Nor is there any doubt in my mind that it has a decided beneficial effect on shock I know of no other drug that will bring that degree of calmness of nerve and repose of mind to the patient in his recovery from anesthesia as aseptic ergot Every prolonged anesthesia is followed by a degree of nausea, retching and vomiting which varies with each individual, but as a rule these symptoms are directly in proportion to the length of the time the anesthesia is administered and the quantity of anesthetic ingested Beside these symptoms, there are others which frequently arise, namely, headache, delirium and a feeling of wretchedness, indescribable but most distressing to the patient The popular saying, "I don't mind the operation, but dread the anesthesia," testifies to the fact that the suffering incident to the operation is not to be compared to the torture directly the result of a prolonged anesthesia Now, therefore, if we possess a therapeutic measure that will prevent, or even only mitigate, those disagreeable sequelæ of anesthesia it certainly deserves consideration In aseptic ergot we find such a measure, and those who will give it a trial will be charmed with its effect. Since I have been using aseptic ergot in these cases I have been able to give my patients a measure of relief for which they felt grateful, and I would be very unwilling indeed to part with so excellent a therapeutic measure

Dr James J Walsh, New York—My own experience with ergot is limited to seeing its effects on delirious alcoholics, where undoubtedly it is of great service Ergot is undoubtedly useful in those conditions in which we find a relaxation of the blood vessels in the abdominal region, here we may have an accumulation of much blood of the body, and it has been pointed out by German observers that practically two-thirds of the blood of the body may be contained within these abdominal vessels at one time Therefore, by toning up these blood vessels the circulation can be made better and certain symptoms may be made to disappear Dr Homer Wakefield of New York, who has seen good effects from ergot in many neurotic conditions, but who is unable to be present at this meeting, has asked that his opinion of the value of ergot in such affections be stated Dr Wakefield has found ergot of decided benefit in the treatment of heart disease with lost compensation, especially in combination with the Schott method of treatment Dr Wakefield has also found ergot of decided benefit in cases of dilated heart and the consequent lessening of resistance in the circulation, and this has been shown by the *x* rays to have become smaller in size

Dr Alexander Lambert, New York—In Bellevue Hospital in New York City it has been a part of my duty to attend to the alcoholics and morphin habitués coming in Last year there were about 8,000 alcoholics there, and they remained one, two, three, four, five or six weeks, or even longer In those cases it has always been difficult to lower the death rate beyond 3 per cent in nine years, those patients with wet brain rapidly sank, due to the exhaustion of delirium Since using ergot I have obtained a 44 per cent lower death rate. Ergot quiets the nerves Formerly I could tell by looking at the tongue of the patient how long the individual had been drunk when giving ergot I can not, ergot takes the shake out so quickly When I went on duty I found 16 cases tied in their beds, when I used ergot, within forty eight hours only one needed to be tied, the rest having a more comfortable time This agent certainly prevents the dilatation of the capillaries of the brain and contracts those already dilated, and ergot is the only drug in my experience of about ten years at Bellevue that would contract these and prevent or help cure the alcoholic wet brain The use of ergot in the treatment of morphin habitués takes away the craving for this drug and helps them through their period of misery and woe caused by the cutting off of morphin I have never seen a patient go into complete collapse when ergot was given I can speak most heartily of Dr Livingston's paper, and of the opinions he expressed regarding the use of ergot It is a drug that will be more appreciated in the future, and it is one of the few drugs against which my skepticism has been changed to unqualified respect

Dr. J B Taylor, Philadelphia—I should like to know why this drug should be given hypodermically rather than by the mouth. In country practice it is, in many instances, very difficult to give a hypodermic In giving it hypodermically, is there no danger of ergotism?

Dr Alexander Lambert, New York—I have given it every two hours for two weeks and never saw ergotism develop

Dr Alfred T Livingston—I prefer to use ergot hypodermically because then I am absolutely certain, from a given dosage, what effects I can obtain, by the mouth one can not be certain Again, ergot is often very offensive to the stomach Hypodermically, it is certain and inoffensive, by way of the mouth, it is an uncertain agent and may disturb the digestive tract. I have not employed it to any extent in rheumatism but it would seem to be indicated, because the fundamental factor in either inflammation or disordered function is an abnormal state of the circulation

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Prophylaxis of Anthrax—J Lignières, director of the National Institute of Bacteriology at Buenos Ayres and later at Palermo, announces that it is possible to prevent infection from anthrax by proper disinfection of the hides of infected animals No disinfectants are known which will destroy anthrax spores without at the same time destroying the hides The anthrax bacteria, however, are extremely vulnerable It is possible to kill them all by immersing the hide for fifteen minutes in a 5 per cent solution of crude carbolic acid or cresil, creolin, etc If this is done at once after the animal is skinned no spores will develop and the hide is effectually sterilized His extensive tests have demonstrated that no spores develop in the hide until at least two hours after the animal has been skinned He advocates that every hide in an anthrax focus should be systematically disinfected in this way as a routine procedure, not restricting the disinfection to the known infected animals The hides are uninjured

XANTHOMA *

JOHN V SHOEMAKER, M D, LL.D
Professor of Skin and Venereal Diseases in the Medico-Chirurgical Hospital
PHILADELPHIA

History—A lad, 18 years of age, afflicted with peculiar, characteristic and unusual lesions on the hands, knees, posterior aspect of the thighs below the buttocks and on the eyelids, was brought by his father to the dermatologic clinic of the Medico Chirurgical Hospital, was shown to the class on several occasions and made the subject of a clinical lecture

Physical Examination—Small in stature, general lack of development Greatest weight, 79, present weight, 67 Thin, with almost no subcutaneous fat General appearance that of a boy of twelve Face marked with lines, giving the appearance of old age. Skin pale, showing a general anemic condition, complexion yellowish, subicteroid. Tongue flabby and pallid.

Chest narrow, scapulæ prominent, marked depression above and below clavicle.

Circulation poor, pulse weak Heart's action increased, apex beat displaced, diffuse, functional cardiac murmur

Liver enlarged, extending from fifth interspace to an inch below umbilicus

Spleen enlarged, could be easily palpated

Urine An analysis of the urine gave the following results Sp gr 1014, acid reaction, no albumin, no sugar, no sediment, hyaline cylindroids, blood cells, uric acid and urates in abundance

Blood—An examination of the blood by Dr L. Napoleon Boston revealed Red corpuscles, 3,990,000, white corpuscles, 20,000, hemoglobin, 60 to 67 per cent Dr Boston also contributes the following notes concerning the blood The red cells were pale. There was marked variation in the size of the red cells, many of them being greatly oversize, while others were scarcely one half the normal diameter The viscosity of the blood was diminished. The red cells stained feebly, as a rule, cells nearly colorless were often seen. The central pale spot in the red cells was much enlarged, and at times this pallor extended to near the margin of the cell The hemoglobin had been extracted from areas in the protoplasm, and these pale areas overlying such degeneration resembled somewhat the effect produced by the malarial parasite. No pigment was seen in the red cells The differential leucocyte count was as follows

	Per cent.
Polymorphonuclear cells	66.0
Large lymphocytes	4.5
Small lymphocytes	15.4
Eosinophiles	6.0
Myelocytes	3.0
Large mononuclear	4.5
Transitional cells	0.6
	100.0

Description of Lesions—The palmar and dorsal surfaces of both hands were covered with small growths, which had been in existence for about six months They first came on the hands The affected regions did not ache spontaneously, but were painful on pressure The boy could not grasp objects firmly by reason of the tenderness of the palms The earliest lesions occurred on the palms, especially in the flexures of the metacarpophalangeal and phalangeal joints They were symmetrically arranged, and a description of one hand will do for both An artist, with deliberate intent and skill, could not more accurately copy the picture from palm to palm The palmar aspect of the thumbs and fingers were *studded with* discrete tubercles, most prominent in the flexures of the joints At the base of the thumbs were numerous tubercles which presented a linear arrangement Lesions were similarly distributed, corresponding to the principal lines of the palms They were also perceptible between the fingers The disease was likewise conspicuous over the knuckles, although the lesions in these situations were less numerous and distinct than on the palms An equal symmetry was observed in the location of the growths on the backs of the hands Lesions were observed between the fingers, and in the *flexures of the elbows* they were confluent The distribution was symmetrical on both arms Large lesions were scattered, though more sparsely, over the back. Some of the largest tubercles, about the size of a pea, were situated below the gluteal fold. Lesions existed behind each ear and on the scalp The upper and lower lids of both eyes were covered with numerous small lesions They were present on the dorsal and plantar surfaces of both feet and between the toes Walking was impeded and kneeling was painful

In various situations the lesions were both nodular, or discrete, and *confluent Small nodules* were *seen on the penis* A patch existed on the mucous membrane of the mouth, corresponding to the attachment of the upper lip to the alveolar process There was a spot of the same kind on the lower lip and others at the angles of the mouth, and one on the uvula. *Several were situated within the nostril* Those *located on the* mucous membrane were rather more conspicuous than those on the skin, owing to the contrast between their yellow color and the red of the mucous membrane

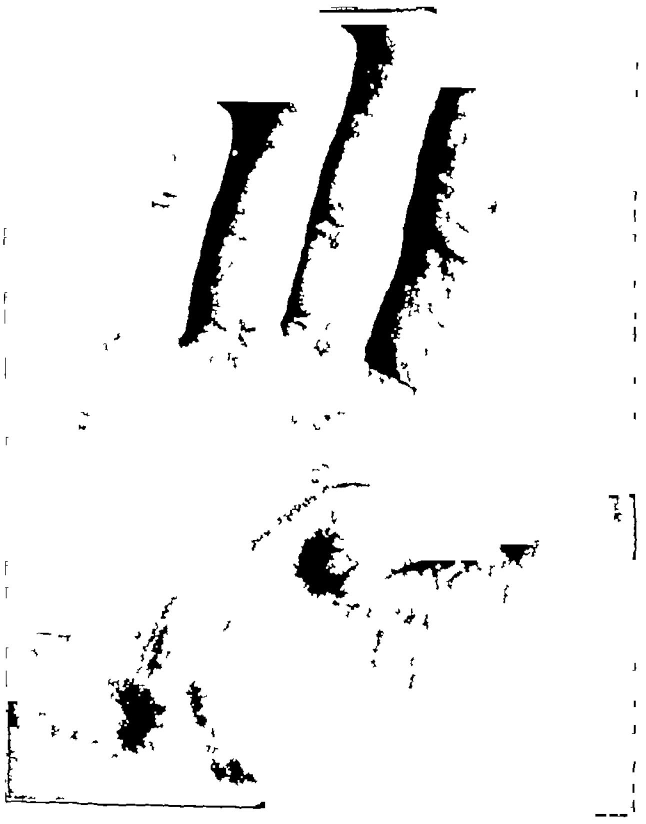

Fig 1—Palm of a typical case of xanthoma.

Many of the lesions were slightly elevated, others were plane with the surface They were of a yellowish color and resembled fragments of chamois leather embedded in or attached to the skin As the father expressed it, they are particularly numerous where the skin is 'slack," or where it is habitually brought in contact with objects

Diagnosis—Although this case represented a *rare affection* yet its features were so distinctive that there could be little difficulty in forming a diagnosis The yellowish color might possibly be suggestive of pus, but the *contents* of the tubercles were neither fluid nor fluctuating, the lesions were rather soft but nevertheless of firm consistency There was no resemblance to acne or any *other inflammatory* disease of the skin There was more analogy to milium, which is sometimes of a yellow color, appears principally on the upper eyelid and other parts of the *face*, and *may* remain stationary for years Mil ium, however, contains sebaceous matter, which may be forced out by pressure after the surface has been pricked. This was not possible with the tubercles of the case now reported.

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* Read at the Fifty fifth Annual Session of the American Medical Association. In the Section on Cutaneous Medicine and Surgery and approved for publication by the Executive Committee Drs. H W Stelwagon J A. Fordyce and H G Anthony

CLASSIFICATION

The permanence of the lesions indicates that the disease should be classified among the new growths or tumors of the skin. The structure and the distinctive hue of the lesions are evidence that it could be no other than the affection which is named for its color—xanthoma, from ξανθός, yellow. Ordinarily, there is little scope for error, although multiple dermoid cysts have been mistaken for xanthoma, from which they could only be differentiated by microscopic examination. Urticaria pigmentosa, which occurs during infancy or early childhood, has sometimes been confused with xanthoma, a fact which is suggested by the very name which some writers have bestowed on that rare variety of nettlerash, viz., xanthelasmoidea. The possibility of error is all the more marked when we reflect that pigmented wheals may persist as permanent new formations of the skin and subcutaneous connective tissue, and that their color may be yellow. Wheals, however, are of firmer consistence than the tubercles of xanthoma. Itching is a much more prominent feature in urticaria than in xanthoma.

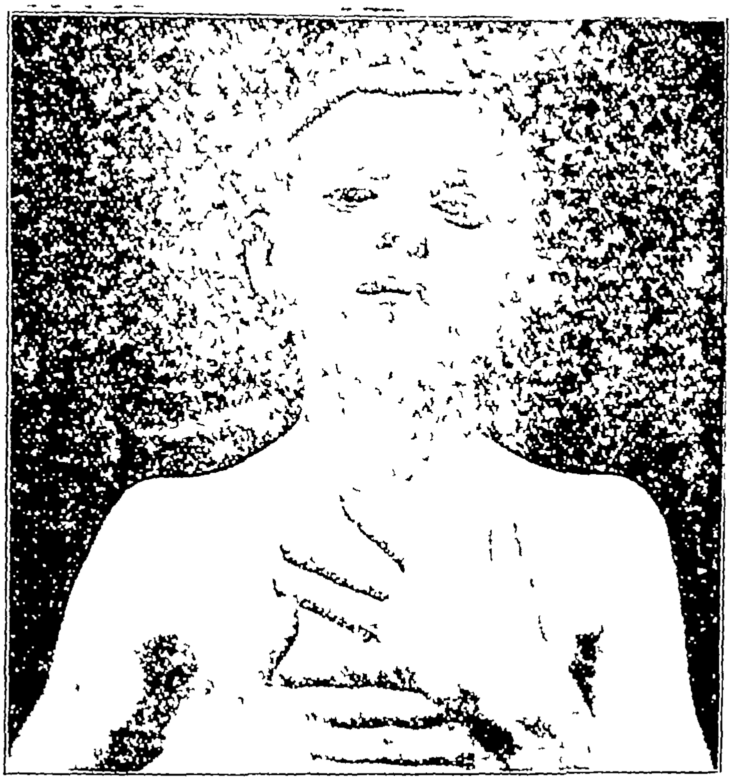

Fig. 2.—Lesions of xanthoma.

SYMPTOMS

Xanthoma is divided into two varieties, according as the lesions are plane or raised—xanthoma planum and xanthoma tuberosum. The spots of xanthoma planum are smooth, sometimes slightly elevated and of a yellowish hue, which has been aptly compared to that of chamois leather. On account of the buff or yellowish color, the disease has also been known as xanthelasma. The abnormal pigmentation has suggested another title for the malady, vitiligoidea. A multiplicity of names or titles for the same disease is undesirable, as it is liable to lead to confusion.

The lesions of xanthoma may be round or elongated. In the case now under consideration, many exhibited a linear arrangement. They may be as small as a pin's head or as large as a pea, and, indeed, in some instances have acquired much larger dimensions. Duhot has recorded a case in which some of the tumors were as large as a walnut. W. Moser encountered a case of a boy in whom multiple mushroom-like growths existed from the size of a pea to that of a hen's egg or larger; they were not tender or painful.

Xanthomatous skin does not seem to be thickened when pinched up between the fingers. After attaining a certain size the lesions generally cease to grow. The eyelid is a favorite location. Cases in which the disease is limited to the eyelid are much more common than those in which the lesions are more widely distributed, and which have been called xanthoma multiplex. In young persons most of these cases are congenital; in adults they are associated with jaundice or diabetes. The lesions have been seen on the cornea, in the mouth, esophagus, trachea, spleen, lining membrane of the bile ducts, liver, heart, aorta, and in the abdominal muscles. Tendons and serous membranes have also been implicated. Adjacent spots may coalesce. Xanthoma of the cornea is extremely rare. Gaucher and Herscher described a case[1] in which the cornea was involved, and stated that they had only been able to find one other case previously reported. The patient was three and one-half years of age, and was probably syphilitic. There was double interstitial keratitis. The keratitis was prior to the ocular xanthoma, the nutrition of the cornea had been reduced, and it had become a spot of least resistance. On the right cornea was a yellowish deposit of irregular shape and plane edges. There were characteristic tubercles of xanthoma on the cheeks. The nodules of xanthoma tuberosum are, as a rule, about the size and color of those of the plane variety, and round in shape, though they have been seen as large as a small apple. The large growths are due to an aggregation of tubercles, and are more irregular in form. In both varieties of xanthoma the color may vary from a light to a dark shade of yellow.

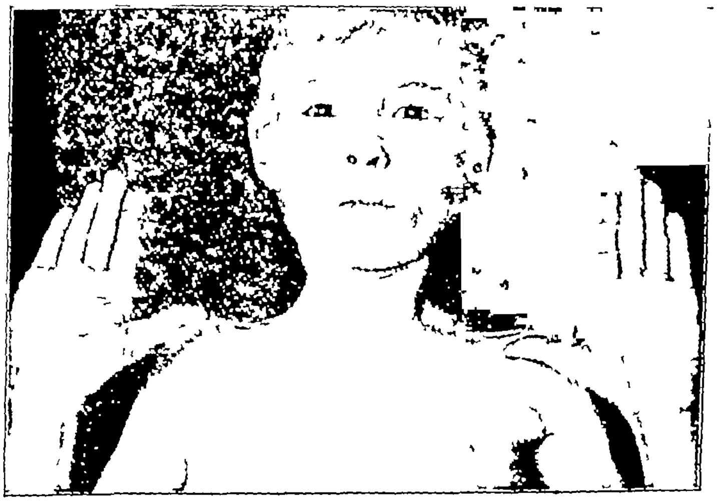

Fig. 3.—Typical lesions of xanthoma.

Xanthoma is more frequent in women than in men. The most usual site of commencement is on the inner canthus of the eyelid, and more particularly of the left eyelid. It begins as a macule. The coalescence of several patches sometimes forms a semicircle around one or both eyes. Subsequently other parts may be attacked. The disease is generally tardy in its progress. Large growths overhanging the eye have been known to interfere with vision. Korach and Hertzka have reported cases in which the evolution occurred within a few weeks, involving the greater part of the body, accompanied by icterus and pruritus. Dr. George T. Jackson of New York observed a case in a boy of 5 which began when the patient was 3 months of age, and attacked all parts of the body except the hands, feet and scalp. Prof. McCall Anderson witnessed an apparently congenital case in a child 3 years of age. Xanthoma, especially of the tuberous variety, is rare in children. Richter had as a patient a 9-month old girl afflicted with generalized xanthoma, marked especially by tumors. The mother thought that the disease had followed the bites of insects when the babe was 3 months of age.[2] Most cases occurring in early life are hereditary or congenital.

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[1] Journal des Maladies Cutanées et Syphilitiques, 1900, p. 48.

Some cases of xanthoma have been described which seemed to be of hereditary origin. Torok knew of a family in which it had affected three generations. Hilton Fagge mentions a mother and daughter who had xanthoma, and in whose family it had occurred for four generations. Hutchinson reports a case of xanthoma in two brothers and a paternal grandmother. Crocker had a case in a stout, country lad of 18, in which the lesions were symmetrically situated on the elbows and knees, an elder brother had the same disease on the elbows. Xanthoma is rather commonly associated with disease of the liver and jaundice. It has been known to develop during the course of diabetes or gout. Jonathan Hutchinson has described an interesting case. The patient had inherited gout, of which he had had several attacks, and of which physical evidence existed in enlarged bursæ and fusiform swellings in connection with numerous tendons. In consequence of a severe fright, jaundice supervened, after which xanthoma appeared on the eyelids. The patches were symmetrically arranged. Subsequently small streaks of the same disease appeared over the right olecranon process. The patient's father and maternal grandmother had had xanthoma of the eyelids. Under the title of xanthomatosis the case has been described of a woman, 35 years of age, who had slight mitral insufficiency, stationary for several years, rheumatism, hepatic colic with or without jaundice, but no gallstones. This patient had xanthoma planum of the eyelids and a small fibro-fatty tumor of the abdominal wall.

In the opinion of Besnier, xanthoma of diabetic origin manifests a tendency to spare the eyelids and locate itself in the mouth. This writer furthermore states that buccal xanthoma progresses rapidly, but may spontaneously disappear. Diabetic xanthoma runs a more rapid course than when the disease is due to other causes. A few cases are on record in which xanthoma preceded the glycosuria. Another case is mentioned in which sugar had entirely disappeared from the urine fifteen months before an eruption of xanthoma occurred. Sequiera had a case of diabetic type without glycosuria. The patient was a man, 45 years of age, in whom the disease had existed for six months without any impairment of the general health. He had never had jaundice, but there was slight enlargement of the liver. According to Malcolm Morris, jaundice never accompanies the xanthoma of diabetics. Up to the year 1900 but 30 cases of diabetic xanthoma had been reported. Several have been published since that date. An interesting case was studied by Sherwell and Johnston.[3] The patient was a diabetic woman, 40 years of age, who had xanthoma on the arms, elbows, knees and buttocks. In fact no part of the body was totally exempt. It was present also on the palms, soles and scalp. The eyelids, an ordinary site, were spared. The lesions were painful when touched. It was difficult to handle objects, walk or lie down in bed. She had a sensation as if foreign bodies, such as peas or balls, were embedded in the skin. Antidiabetic diet had a remarkable influence on the eruption, which rapidly disappeared. Coincidently she lost the feeling of foreign bodies in the skin. In the course of two or three weeks she was able to use her hands, walk and lie on her back. When the patient first came under their observation, the eruption, when seen from the other side of the room, looked very much like confluent smallpox in the suppurative stage. Dr. Abraham has had a case of xanthoma in a diabetic woman, 32 years of age. The eruption had been in existence for four months. She was subject to biliousness. The lesions were painful when pressed. Women are much less liable to diabetic xanthoma than men.

Xanthoma diabeticorum, or the diabetic type as it is also called, differs in some particulars from the other varieties of the disease. The onset is more rapid in diabetic cases and the eruption may speedily vanish, as in Sherwell and Johnston's case. The lesions are of somewhat different aspect. They present some signs of inflammation, and consist of yellowish points on hyperemic bases.

The lesions of xanthoma usually remain for a long period or during life. In a few instances they have spontaneously disappeared without leaving pigmentation or cicatrices.

In cases of xanthoma multiplex the lesions are generally both plane and nodular. The spots are more common on the eyelids and flexures, the tubercles most frequently occur on the knuckles, elbows, knees and buttocks. The disease is commoner on the limbs than on the trunk. Lesions on the knees may be the source of discomfort or pain.

PSEUDOXANTHOMA ELASTICUM

Under this title Balzer described a form of eruption which bears some resemblance to that of xanthoma, being of a yellow color. Microscopically, however, it seems to be due to fatty degeneration of elastic tissue. A second case has been reported by Chauffard, and a third by E. Bodin. In these three cases the lesions were found on the front of the abdomen, base of the neck, axilla and groin, the knees, elbows and eyelids were free from disease. The evolution was slow, there was neither jaundice nor liver trouble, but there was tuberculosis in every case. The lesions were small masses of granular substance constituted by swollen and segmented elastic fibers, etc. Bodin regards this species as only provisionally attached to true xanthoma.[4]

PATHOLOGY

Xanthoma is a connective-tissue new growth undergoing fatty transformation. The lesion consists of irregular, uncircumscribed aggregations of large cells which have a clearly defined outline and possibly a cell wall with small nuclei, sometimes several in a cell, and with cytoplasma, characterized by closely massed fat globules. The cells occupy the spaces between the bundles of connective-tissue fibers belonging to the reticular layer of the corium, sometimes extending to the papillary layer. The epidermis shows slight atrophic changes. According to Touton, the fat is deposited in proliferated connective-tissue elements. In sections made by Prof.

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[2] Journal des Maladies Cutanées et Syphilitiques, 1903, p. 531.

[3] Journal of Cutaneous and Genito-Urinary Diseases, Sept., 1900.

[4] Journal des Maladies Cutanées et Syphilitiques, 1901, p. 122.

Joseph McFarland, there were scarcely any evidences of inflammation exhibited Some writers, as Crocker, Chambard and others, believe that the disease originates in a chronic inflammation with proliferation of round cells As these are not invariably present, however, Touton and others refuse to accept the inflammatory theory All authorities agree that it is the fat in the cells that gives them their yellow color

Pollitzer, following Unna, teaches that xanthoma of the eyelids is due to degeneration of muscular fiber embryonically displaced, and that it differs from xanthoma tuberosum and xanthoma diabeticorum in this respect Clinically, I should regard the different forms of the disease as the result of a process identical in its nature, though differing in some histologic details perhaps, for, as in the case which I now report, we see plane and nodular lesions on the same person Not infrequently the disease begins on the eyelids and spreads to other parts of the body

ETIOLOGY

In reviewing the course and associations of the disease, I have anticipated some of the chief points of etiology I have spoken of the close connection which often exists between xanthoma and disease of the liver, gout and diabetes, and that it may be of congenital or hereditary origin Xanthoma palpebrarum is more common in women than in men, contrary to what occurs in xanthoma of diabetics It generally begins in middle life and is most frequent in people of dark complexion

TREATMENT

When xanthoma is confined to the eyelids, or when the tubercles are not numerous, they may be removed by excision Great care must be taken in order to avoid the occurrence of ectropion or epiphora Cauterizing and curettage have sometimes succeeded Kaposi used soft soap Morrow, in a case of nodules on the soles and knees, effected an improvement by means of a 25 per cent salicylic acid plaster Dr James C Maguire made use of monochloracetic acid, applying it to a small spot at a time and gradually going over the entire diseased area A 5 to 10 per cent solution of mercuric chlorid in collodion has been recommended Electrolysis has been used by Hardaway, Wende, Pansier and Leviseur Dr Willmott Evans treated a case by means of the *x*-ray The disease affected both elbows and was of seven years' duration He subjected one elbow to ten exposures of fifteen minutes each with a very satisfactory result, the elbow becoming practically clear

Wilson and Besnier advised constitutional treatment The former gave nitrohydrochloric acid, with an occasional blue pill, followed by arsenic Besnier administered phosphorus first, succeeded by arsenic, and reported a rapid removal of the growths by this method

The diet and other measures which are of service in diabetes have exerted an excellent influence on xanthoma, due to that disease Arsenic has also been given with asserted benefit

TREATMENT AND PROGRESS OF THE PRESENT CASE

The patient was first seen on Oct 16, 1903 On account of his unsatisfactory general condition he was then ordered

R	Ferri lactatis	gr 1/4	016
	Strychninæ sulphatis	gr 1/100	00065
	Acidi arsenosi	gr 1/100	00065
	Salicini	gr ii	12

M Ft pil No i Sig One such pill to be taken three times a day

No local application was given, as the disease was so widely spread On November 6 the boy's subjective condition was somewhat improved On November 13 he reported that he felt better, and it was thought that he was a shade less pale He was kept under observation, and on Jan 22, 1904, was again brought before the class At that date it was evident that he was losing ground The anemia had increased On March 23 he was thinner—a mere skeleton—and was having night sweats An examination of the chest gave a negative result

On April 23 the patient's abdomen was distended and very hard on the right side He was very weak, had lost appetite, had abdominal pain, and sometimes vomiting He was placed on

℞	Acidi nitrohydrochlorici dil	m x	60
	Tinct gentianæ co	ʒi	3 75

M Sig One such dose to be taken after each meal

He was also ordered

℞	Pil strychninæ sulphatis	1/60	0011

M Sig For one dose (before meals)

Xanthomatous deposit was probably taking place in the liver

The boy had been watched most carefully by the clinical assistants His father brought him to the dispensary at stated intervals With the exception of some slight improvement at first, his condition gradually grew worse At about the time of the last note one of the assistants visited the patient at his home—he lived in a distant part of the city—and found him in a feverish state, very much prostrated

REMARKS

This is a very interesting case, an excellent example of xanthoma multiplex The exquisite symmetry with which the lesions were arranged, more particularly on the hands and arms, claimed attention, and is quite characteristic of the variety of the disease by which we were confronted It was a case of xanthoma multiplex exhibiting patches, tubercles and nodules, both discrete and confluent Although the eyelids are the commonest site of the eruption, and although they were typically involved in this case, yet it was not in this situation that the disease first made itself manifest

The morbid process began at an early age in this patient With the exception of the few congenital or hereditary cases, xanthoma develops, in most instances after the age of 40 The lad was naturally of light complexion, which is also against the rule The rather plentiful deposit of xanthomatous material on the mucous membrane is among the less usual manifestations Although I have observed a number of cases of the disease, yet this was the first occasion in which I had seen it attack the mucous membrane

The poor physical development of the lad and his unpromising systemic condition are to be specially noted As a general rule, the prognosis of xanthoma is good as to life The genesis of his case seems to depend on the renal involvement with an inactivity of the liver and anemia, as evidenced by the examination of the urine and blood The stunted growth would seem to be only an interesting coincidence

The evolution was rather rapid considering the large amount of surface covered In this respect it somewhat approximates the cases observed by Korach and Hertzka Its progress was accompanied by much itching This symptom is more particularly distinctive of diabetic xanthoma, but no sugar was found in the patient's urine

The pain elicited by contact with the lesions was a marked feature of the case

Cases exhibiting multiple lesions are rare The striæ so well marked on the hands are not unusual in cases affecting the palm The case recorded by Duhot also illustrated this arrangement In Duhot's case the generalization was very complete, but, unlike that which I here report, the face, neck and genital organs were spared

The lesions consisted of tubercles and tumors, they were yellow and firm The palms and phalanges were striated Some tumors had spontaneously and entirely receded In Duhot's case there was no diabetes, but hepatic antecedents were noted

The coalescence of adjacent lesions was particularly observable in the case of my patient

DISCUSSION

Dr. A W Brayton, Indianapolis—Dr Shoemaker has emphasized the extreme rarity of these generalized cases of xanthoma which justifies him in calling attention to them I saw a case in Indianapolis several years ago, in a woman of 39 I think one fourth of her body was covered to the same extent and with as great a variety of lesions as in this case I reported that case briefly in the *Indiana Medical Journal*, April, 1900 It is the second case I have had knowledge of in which the lesions were so extensive The urine was examined in that case with negative results The patient has passed from my observation, but I think that if she is still living she cannot recover The lesions had been developing for three years, surrounding the eyes involving most of the face, the knees and elbows, and particularly massive on the hands and arms and below the knees On the shins the tumors were from the size of a wheat grain to a lima bean On the palms the growths appeared as if strips of chamois skin were set in the "lines of life" The whites of the eyes were yellow, the urine was yellow, but gave no signs of bile pigments The liver appeared normal There was pruritus Crocker states that four fifths of the generalized cases have been associated with jaundice The disease is rare Ten years ago less than twenty cases of the diffuse form were known

Dr. William Allen Pusey, Chicago—A very exaggerated xanthoma was shown some time ago before the Chicago Dermatological Society and which has recently been under my observation The interesting point was that the patient a boy about 16 years of age, was suffering from polyuria without sugar The lesions were of the type of the ordinary xanthoma and did not present the picture of diabetic xanthoma So far as I know no other case of xanthoma associated with diabetes insipidus has been recorded

Dr. David Lieberthal, Chicago—Cases with such extensive distribution are not frequent. I wish to call attention to the fact that in this case, which is naturally one of infantile xanthoma, the eyelids are affected In 1882 a report was made before the London Pathological Society by Startin and Mackenzie, of the published cases of infantile xanthoma, eight in all, and in none were the eyelids found to be the seat of lesions About ten months ago, through the courtesy of Dr L Greensfelder, I had the opportunity to demonstrate a case of infantile xanthoma before the Chicago Dermatological Society This was not the case mentioned by Dr Pusey It was a boy of 10 years, physically well developed, but morally defective, a kleptomaniac The lesions were extensive not only in the skin and subcutaneous layer, but tumors were also found on the tendons of Achilles Dr Greensfelder operated on the case to ascertain to what extent the tendons were affected, and it was found that their sheaths were free, but that the tendons themselves were diffusely infiltrated by the xanthomatous process How shall we explain the development of fat in various localities normally free from it? There seems no doubt that there is an underlying, a severe, and probably an internal cause, especially when we consider Dr Shoemaker's case which shows a veritable cachexia I would like to ask Dr Shoemaker if lesions were found in the internal organs inasmuch as there was not only extensive affection of the skin, but also lesions of the mucous membrane of the mouth and throat.

Dr. Edmund L. Cocks, New York City—In the Skin and Cancer Hospital of New York there was a case in a young woman similar to this boy's case, only the nodules of the lips and nose were larger That case was gone over very carefully, but we could not find anything wrong except the condition of the skin Dr Bulkley used the x rays and the nodules diminished almost one-third, although the striæ have not diminished to any great extent I feel sure from the reports I have had of her case that she will recover

Dr Jay F Schamberg, Philadelphia—Dr Shoemaker's patient appears to have on the cutaneous surface every gradation of the xanthomatous process On the eyelids are typical lesions of common xanthoma planum, on the extremities are seen characteristic lesions of xanthoma tuberosum, and on the back is an inflammatory nodule closely resembling those seen in diabetic xanthoma The extent of the eruption and the pronounced effect on the boy's general health would suggest that he is suffering from a general disease of which the cutaneous lesions are merely conspicuous external manifestations, indeed, the clinical picture is quite analogous to a malignant internal neoplasm with multiple cutaneous metastases What has the physical examination of the abdominal viscera disclosed, particularly in reference to involvement of the liver and spleen? It is the careful study of severe cases of this character that will doubtless throw light on the lesions of xanthoma that are so commonly seen in persons enjoying apparent health

Dr. Edmund L Cocks, New York City—I have carefully examined the internal viscera and find the liver is very much enlarged, in fact, we have liver dullness extending below the umbilicus up to and even beyond the fifth interspace The spleen is also enlarged I think Dr Shoemaker mentions the examination of the blood, which shows marked anemia

Dr. D W Montgomery, San Francisco—The boy's protuberant abdomen would signify that some of the abdominal viscera are affected

Dr M L. Heidingsfeld, Cincinnati—I wish to record a case which I saw in November, 1902, in Evansville, Ind, in consultation with Dr Sidney Eichel of that city The individual was a cachectic white boy, aged 16 years, weight 68 pounds, height 4 feet 6 inches Three years previously a ruptured compensation from a mitral insufficiency resulted in general edema, which was relieved by treatment, and jaundice and enlarged liver, which have continued to persist. The liver at the time of consultation extended below the umbilicus and almost completely filled the right half of the abdomen The xanthomatous eruption began, shortly after compensation was ruptured, over the extensor aspects of the extremities, and was very generally distributed over the entire body in tuberous form, except around the knees and elbows where the lesions were very closely aggregated together and took on the form of xanthoma planum Urine until lately contained albumin, but at the time of examination was normal, excepting that it was reduced in amount, its specific gravity was 1 015 His sleep until lately was disturbed by frequent micturition Appetite remained good, bowels regular, general distress slight All organs except liver and heart apparently normal

Dr L Duncan Bulkley, New York City—When did the first signs of this disease appear?

Dr. Shoemaker—I do not think he gives a clear history Frank, how long have you had this?

The Patient—About ten months

Dr William L Baum, Chicago—In hearing the result of the blood examination I think it would be well if some examination of the pancreas were made in this case especially as to his digestion of fats In view of the fact that in some cases of polyuria there is a relationship with xanthoma would point to investigation along the avenues of the pancreatic cells which might show some relationship with the central nervous system This looks to me more like a secondary toxemic effect and it would be interesting to know what Dr Shoemaker's record of the case might be at some future time

Dr. Henry G Anthony, Chicago—This case, although presenting unusual features is not difficult to diagnose The cases which present the greatest difficulty in diagnosis are those in which there is no elevation the lesions consisting simply of yellow spots in the skin This variety is recognized as a separate form by the *Pratique Dermatologique* Dr Pusey showed a case of this character before the Chicago

Dermatological Society, the spots had been present on the forehead seven years We had a discussion in regard to the diagnosis I thought it was xanthoma, others thought it verruca planum

UNCINARIASIS IN THE SOUTH, WITH SPECIAL REFERENCE TO MODE OF INFECTION *

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In this paper I shall attempt to present some additional light on the mode of infection in uncinariasis or hookworm disease The views as presented before this Section a year ago[1] have been confirmed, not only by my own observations, but also by those of physicians in different sections, who, after reading the article in THE JOURNAL, have written to me regarding the disease as it exists in their sections

DISTRIBUTION AND PREVALENCE OF THE DISEASE

It has been my fortune to see cases of the disease from all of the coast states in the south, from Virginia to Texas, inclusive, with the exception of Mississippi but reports received from that state show that it is prevalent there as well While my observations have necessarily been confined principally to my own state, yet the evidence indicates that the disease is equally as prevalent in all our southern states I do not believe that there is any section of any extent in these states that is free from it It seems as if the entire country was literally saturated with it It is found on the highlands as well as the lowlands, and on the mountains as well as on the seaboard

RELATION BETWEEN UNCINARIASIS AND GROUND ITCH

I have previously called attention to the close relationship which I observed to exist between uncinariasis and ground itch, presenting clinical evidence that uncinariasis is always present in all cases which have had ground itch within eight years, that uncinariasis is rarely, if ever, present in those who have not had ground itch within that time, that of members of the same family, living under exactly the same conditions, those who have had ground itch within this time also have the uncinariasis, and vice versa, also that the severity of the disease and the number of parasites are almost invariably in direct proportion to the number of attacks of ground itch

While the principal object of this paper is to report some experiments of placing the larvæ on the skin to artificially produce the disease, I wish first to make a few general remarks regarding the symptoms and diagnosis of uncinariasis

SYMPTOMS

No one set of symptoms can be put down as diagnostic of uncinariasis, as they vary with the amount of infection and with different individuals For convenience, I have classified the disease under three types

First Mild cases, which have had only one or two attacks of ground itch, and therefore have only a small number of the parasites of the intestines, not sufficient to produce any diminution in the corpuscles and hemoglobin

Second The medium type of cases, which have usually had two or more attacks of ground itch, and have a much larger number of the parasites in the intestines, sufficient to produce a reduction of the corpuscles and of the hemoglobin, but which is not perceptible on inspection of the patient, but is readily shown by the blood examination

Third The severe type of the disease, those cases about which so much has been said in the past, and which have had numerous attacks of ground itch, and which usually have several hundreds of the parasites in the intestines and present all the symptoms of extreme anemia, which is readily recognized without the blood examination, and which is oftentimes so great as to interfere with the development of the individual

We can not draw a sharp line separating these three types, but I make this classification for the sake of convenience in considering the prevalence of the disease, and also to draw attention to the fact that those cases which can be suspected from the symptoms of profound anemia are not so numerous as the other two types combined

In cases of the first or mild type, there are practically no symptoms by which the disease can be suspected There is no interference with the appetite and digestion which might not be attributed to other causes, no reduction in the hemoglobin, and the patient feels strong and vigorous, as the body is able to nourish a few of the parasites without taxing its reserve power

In cases of the second type, there may be various symptoms of interference with digestion, and while the patient usually says that he feels fairly well and superficial inspection may not show any decided anemia, yet the blood examination will show the reduction in the constituents of the blood

In the third or severe type, the patient presents all the appearances of profound anemia The skin has a yellow parchment appearance, mucous membranes are blanched, the sclera shows clear white through the conjunctiva in which no blood vessels can be made out The face is bloated and expressionless and the skin over the exposed parts often appears to be much thickened and feels dry and rough The patient may be greatly emaciated, but this may be hidden by edema The patient is very weak, and if he attempts violent exercise quickly becomes exhausted and short of breath There is a decided systolic murmur, and the blood examination shows a decrease of from 50 per cent to 90 per cent in hemoglobin, and the red corpuscles may be as low as 1,000 000, or even less The appetite is capricious, perverted, and there may be nausea and headache The perversion of the appetite may be shown in a fondness for meal, clay, sand or other substances

Many physicians have written to me regarding the habit of dirt eating as being the mode of infection of the disease When I first discovered the disease in my section, this view naturally presented itself to me as it had been mentioned in connection with the old-world parasite, but on careful investigation I found that children were sometimes falsely accused of eating dirt simply because they presented this appearance of profound anemia which is seen in those who acknowledge the habit of dirt eating Also I found that those who do eat dirt usually select a special kind of clay on the side of some bank, and which is remote from any source of infection with the larvæ This fondness for dirt is simply the perversion of the appetite produced by the disease, and has nothing to do with the production of the disease

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs V C Vaughan Frank B Wynn and Joseph McFarland

[1] THE JOURNAL A M A, Sept 19 1903

The food is usually bolted down in large masses which may pass through the alimentary canal undigested

In this severe type of the disease the patient sometimes becomes so weak that he is scarcely able to drag himself about the house, and there is general edema, which is especially marked about the feet, legs and abdomen He may remain in this condition for some time, and then begin to gradually improve, or he may gradually get worse and worse until he dies These cases have puzzled the physicians in the past, as they were unable to account for the cause of death When this bloated stage is reached, life seems to hang by a mere thread, but many cases which have recovered from the disease give a history of having passed through this condition

DIAGNOSIS

A positive diagnosis of the disease can only be made by finding the eggs of the parasite in the stools of the patient

In the mild type of cases there is absolutely nothing in the appearance of the patient that would lead one to suspect the presence of the disease, and there are no diagnostic subjective symptoms, in cases of the second type this is almost equally as true At best, you may be able to detect a slight paleness of the mucous membranes, but of course this does not make a diagnosis

The severe type presents all the symptoms which we may find in all cases of profound anemia, but these symptoms vary somewhat with the severity of the attack, and there is nothing positively distinctive about this anemia which separates the disease from the profound anemias due to other causes If anyone should stake his reputation on his ability to differentiate the severe type of this disease from profound anemia due to other causes he would be sure to come to grief

There is an important point on which I wish to lay great stress Where one finds one case of the severe type of the disease, one will find a much greater number of the mild and medium types The severe cases are far in the minority, and represent only a small proportion of the great mass of cases of all types of the disease Usually one does not find more than one case of the severe type in one family, and yet all the other children may be infected, and not be suspected on account of having the mild or medium type and not presenting any pronounced symptoms Too much stress has been laid on the severe type to the almost entire exclusion from consideration of the milder types, with the result that the physicians are not on the lookout for the disease unless they see these symptoms of severe anemia The symptoms presented in these severe cases, however, are simply the conditions which would be found in any profound anemia due to other causes, and are not diagnostic of the disease

Until recently all these cases of extreme anemia delayed development, parchment skin, etc have been called malarial cachexia, and treated as such, but now as soon as a physician gains some knowledge of uncinariasis he is prone to call all these cases hookworm disease and proceeds blindly to dose them with thymol and then is surprised because he does not always get results The pendulum always swings from one extreme to the other, but eventually it will settle on rational middle ground.

While it is true that the doctor who makes a snap diagnosis and calls every case of profound anemia uncinariasis, will be correct in the majority of instances on account of the prevalence of the disease, yet he will be surprised at the number of times that he is mistaken and his treatment of no avail This being the case, no doctor is warranted in indiscriminately prescribing the large doses of thymol without first being sure of his diagnosis, and especially so in view of the fact that a positive diagnosis can be made with such ease and accuracy

THE DISEASE NOT CONFINED TO THE LOWER CLASSES

While this is a disease of the country and not of the city, and is most commonly found among the lower classes, yet I find it occasionally in the better classes and in the cities, and often in the most unexpected quarter Every physician must be always on the alert if he would be sure that no case slips through his hands undiagnosed, and which may be disguised by an attack of some other disease

This applies not only to physicians in the south, but also to those in other sections of the country who encounter patients who have lived in the south It is the joy of every boy, whether rich or poor, to go barefoot in the summer and to paddle about in the mud, and many who live in the cities spend their summers in the country, and while there contract ground itch, and in this way have the mild or medium type of the disease

PRECAUTIONS IN REGARD TO THE USE OF THYMOL

Every physician in treating this disease must bear in mind that 5 grains is ordinarily considered to be the maximum dose of thymol, and that in administering 30 grains he may be giving a toxic dose In the old world, death occasionally follows the administration of this large dose, and therefore, it behooves physicians in this country to be extremely cautious in the administration of this drug The treatment should be modified to suit the individual case, and every precaution taken against bad results No physician in this country wishes to be the first to have a death from the administration of thymol, and no physician is warranted in giving thymol without first making a positive diagnosis

HATCHING THE EGGS OF THE UNCINARIA

To hatch the eggs of the uncinaria, I have found that the best plan is to employ a Petri dish with a snugly fitting top Place in this a small amount of soil, just sufficient to cover the bottom of the dish, and add to this soil the feces containing the eggs of the uncinaria The feces should first be rendered semi-liquid with water, so as to facilitate thorough mixing with the soil On adding a small amount of the feces to the soil and thoroughly mixing it, the odor of the feces will disappear, leaving only an odor of damp earth The feces are added gradually until a faint odor of the feces remains, but this will disappear in a day or so (Fig 1)

To facilitate the rapid hatching of the eggs, there should be just sufficient moisture in this mixture to keep the soil damp If too much moisture is present, the lid of the dish may be left off for an hour or so to allow the excess of moisture to evaporate It is necessary to replenish the moisture every two or three days by adding a few drops of water at a time If there is not too much moisture, and the soil is thoroughly mixed with the feces, all of the eggs will hatch in about twenty-four hours Otherwise some of the eggs will not hatch until several days after the first larvæ appear Figure 1 shows Petri dishes with soil containing larvæ

OBJECT OF USING PETRI DISHES FOR HATCHING EGGS

By employing these Petri dishes we can watch the hatching of the eggs and the development and habits of the larvæ This is done by inverting the dish and placing it under the 2/3 objective of the microscope

One can watch the eggs hatch and observe the larvæ traveling about in the soil by their sinuous motion, and in the same way working their way across the open spaces on the bottom of the dish These open spaces may seem to the naked eye to be free from water, but with the microscope we can make out a thin film of moisture, just sufficient to preserve the vitality of the larvæ and favor their locomotion

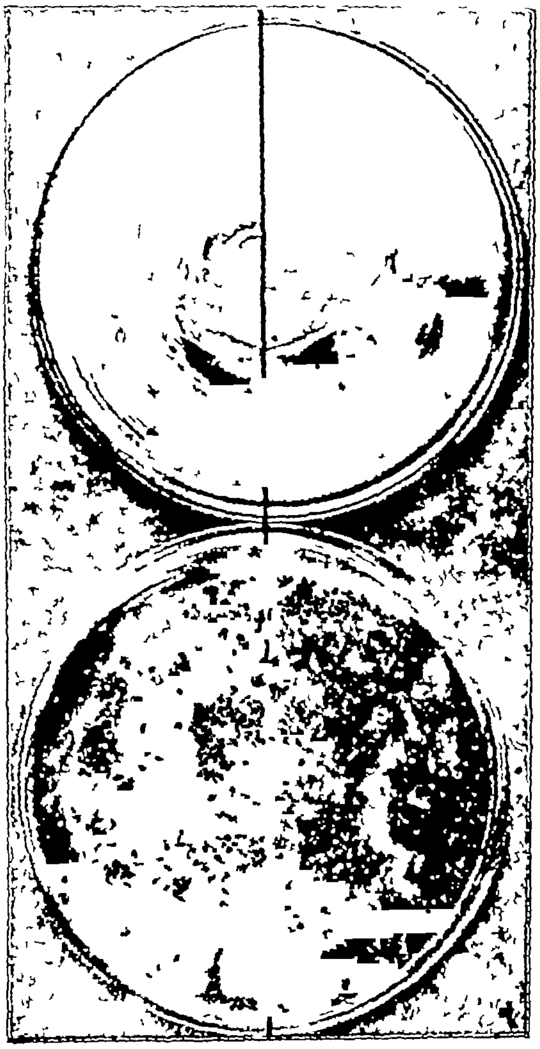

Fig 1—Petri dishes containing soil with larvæ of uncinaria.

APPEARANCE OF THE YOUNG LARVÆ

When the egg hatches, the small larva which emerges seems to consist principally of esophagus and stomach, the other end of the organism being short in proportion At this time the larva is very sluggish under all conditions, and no amount of disturbance seems to arouse it For the next three or four days it grows very rapidly, this growth being most marked in the posterior half of the organism Also at this time the first sheath appears, and with it the organism becomes extremely lively at times, especially if disturbed Whether it is necessary to disturb the larvæ to produce this animation I am at present uncertain, but I am sure that sometimes very little motility is displayed by the organisms while in the Petri dish, yet if placed on a slide they will begin squirming about at a lively rate This rapid movement will last from a few minutes to half an hour or more, and then they will lie perfectly still for a corresponding length of time with their bodies perfectly straight, after which they resume their lively motions When lying still, one who is not familiar with this trait would suppose them to be dead, but close observation will readily differentiate them from the dead larvæ

When placed in a drop of water on the slide there is a tendency to migrate to the edge of the drop, where they squirm about as if trying to get beyond its confines The larvæ may be kept alive in the Petri dish for three or four months After keeping them for some time, however, I noticed that there was a diminution in the number present in the soil, and was somewhat puzzled to know what had become of them, as I was unable to find sufficient remains of dead larvæ to account for the decrease Recently some of the internes at the Grady Hospital called my attention to the fact that on examining some cultures which I had left at the hospital, they had observed great numbers on the underside of the lid of the dish, and that in a good light they could faintly make out these larvæ with the naked eye I found both these reports to be true The precipitation of moisture can readily be seen on the under surface of the lid of the dish, and on examining this the larvæ can be made out, some moving around, while others are perfectly still in the resting stage

SOME OBSERVATIONS OF THE LARVÆ

If larvæ three days old are placed in a drop of water on the slide, it will be observed that while their motility is something wonderful as they thrash about in the water, yet they are unable to make any progress because the water does not offer sufficient resistance to their sinuous movements However, if placed in a thin layer of soil (so that they can be easily seen with the microscope), their sinuous movements give them wonderful speed with the foothold which they gain by zigzagging between the grains of sand or particles of earth As they dart about it may also be noticed that when they encounter anything which blocks their progress that the head remains more or less fixed against one point and the violent motion of the body gives the appearance as if it were trying to force its way If the larvæ are in water their most vigorous efforts produce very little effect on the obstruction, but if there is sufficient soil against which they can brace the body, as it were, they sometimes brush aside the obstacle, or force their way through small openings

Bearing these observations in mind it can readily be seen that it would not be easy for the larvæ to force their way into the ducts of the glands when they are applied to the skin in water, but if they are applied mixed with soil, their power of penetration would be greatly increased

Ground itch nearly always starts between the toes When a barefoot person steps in mud it is forced up between the toes where the skin is thin and tender, and the pressure of the adjacent toes holds the soil in direct contact with the skin, and the conditions are thus made favorable for the passage of the larvæ from the soil to the skin

VITALITY OF THE EGGS AND DEVELOPMENT OF THE LARVÆ

In determining how these larvæ get into the body it is necessary for us first to know where they exist in the natural state To ascertain this we begin with the passage of the egg from the adult worm We find that this parasite is practically confined to the human family, that when matured it is located in the small intestines, that the eggs are discharged from the body in great quantities with the feces, and that these eggs hatch when mixed with damp soil However, if these eggs become dried their vitality is destroyed, they are also killed by freezing When the eggs do hatch we find that this takes place in about twenty-four hours if the weather is warm, but more time is required if the weather is cool

As before stated, the larvæ are very sluggish when first hatched, but gradually become more active, especially if the temperature is favorable, and are extremely lively by the time the first sheath appears, but they again become sluggish and inactive if the temperature is lowered, and a freezing temperature kills them

WHEN GROUND ITCH IS CONTRACTED

From a consideration of these facts we would naturally deduce that, if they do gain access to the body by way of the skin, this must take place during warm rainy weather, or in places where the ground is constantly moist. If a careful clinical investigation of cases of ground itch is made, it will be found that it always occurs as a result of wading about barefoot in the mud, and especially if it has been raining for more that a day previously

SYMPTOMS OF GROUND ITCH

The first symptom of true ground itch is an itching, usually between the toes, and this becomes more and more intense until it is excruciating Children often cry all night during an attack The itching begins immediately after wading in the mud, and small hyperemic spots or macules are noticed at the points of irritation, and these macules appear to be slightly elevated, but hardly reach the distinction of papules These macules rapidly change to vesicles, which may become confluent, forming large blisters, and at the same time there is usually considerable swelling in the underlying tissue The vesicles are usually ruptured, presenting a raw oozing surface This condition may last only a couple of weeks, or it may last several weeks, it may involve only a small area, or it may cover both feet, and the patient be unable to walk about for the time being

CHANCES OF INFECTION

The next point to be considered is, what are the chances for human beings to come in contact with the larvæ? If all the feces of people who have the parasite in their intestines were destroyed, then there would be no possibility of the eggs hatching, and reinfection or infection of others would not take place From a study of the habits of the people we find in the country and in small villages that the feces, instead of being passed into receptacles and carried away, are deposited about indiscriminately on the ground, very often near the house and even in the yard In many instances, if all the eggs passed in the feces of the people living in one house (usually most of the members of a family have the disease) should retain their vitality and hatch out, then the soil of such premises would be swarming with the larvæ, and everyone barefoot would be almost sure to come in contact with the larvæ every time they stepped on the ground However, when we remember that all eggs and larvæ are destroyed when they become dried or frozen, we would not anticipate any danger of infection from the larvæ except when the ground is kept moist in warm weather, and therefore, the feces which furnish infection are only those which are passed just preceding rainy weather in the summer Nature provides for the production of countless numbers of the eggs at all times, so that when a favorable time presents itself there is sufficient material for the propagation of the species

PROPHYLAXIS OF THE DISEASE.

If we thus understand just what conditions are necessary for the completion of the life cycle of the parasite, and can interpose a complete obstruction or break in the chain at one point, then we can readily prevent the disease As all the evidence points to the view that these larvæ pass into the system through the skin of the feet, and that this takes place only during periods of rainy weather or from damp soil, then if we protect the feet so that they can not come in contact with the soil, *we can thus prevent infection. To attempt to* change the habits of these people and to control the deposition of the feces is not a feasible undertaking, as any one who is familiar with the conditions well knows It is much more practicable to teach the people that ground itch is not such a simple disease as they suppose, but that it has serious results, and if they once realize this they are more apt to see that the feet are protected in rainy weather If this is thoroughly carried out, other precautions are superfluous

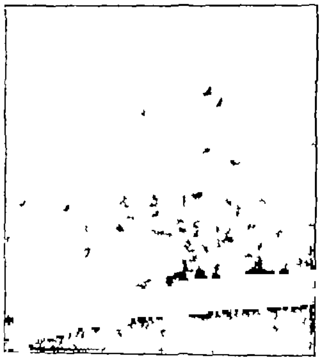

Fig 2—Eruption on the wrist produced by larvæ of the uncinaria

EXPERIMENTS WITH THE LARVÆ ON THE SKIN

Soil containing larvæ twenty four hours old was placed on the back of the wrist of a patient and allowed to remain one hour No effect was produced and no disturbance of the skin followed

When these same larvæ were four days old the soil was again applied to the wrist, covering an area about two inches in diameter, and allowed to remain one hour The soil was bound on the wrist with gauze bandage. Within a few minutes after being applied the patient complained of a slight itching, but I thought this might be due to the irritation produced by the grains of soil being bound on the wrist. However, within eight minutes after being applied he complained of a decided stinging sensation as if produced by very fine needles, and this persisted during the time the soil was in contact with the skin, but subsided somewhat afterward. On removing the soil the area covered by it was found to be decidedly reddened in spots, and these spots or macules appeared to be slightly elevated The macules persisted, but the patient said that he did not experience any inconvenience during the balance of the day, the next morning, however, he found that he had scratched it during his sleep, and I found that the epithelium had been scratched from some of the spots, which were now so elevated as to resemble papules, and the entire area was decidedly swol len The wrist was wrapped with gauze bandage so as to prevent the patient from scratching it

The second morning the patient reported that the itching had been so severe during the night as to seriously interfere with his sleep, and on removing the bandage the area was found to be much swollen and covered with vesicles

The third morning the patient reported that his sleep was again disturbed by the itching, but that it was not severe during the day The swelling had increased and involved the back of the hand

The fourth morning the swelling had extended to the fingers, and inflamed streaks appeared above the wrist, running around to the middle of the flexor surface of the forearm and slightly tender on pressure Axillary glands were somewhat enlarged and tender The epitrochlear was not involved There was very little swelling above the wrist The itching was still troublesome, but temporary relief was obtained by placing it in very hot water

On the fifth day the vesicles were much enlarged and confluent Some had ruptured and saturated several layers of the gauze bandage with the serum The itching was still constant, but not so intense The swelling of the hands and fingers greatly increased No increase of tenderness of the axillary glands or redness of the middle of forearm

On the sixth day the tenderness and swelling were less marked

By the seventh morning the vesicles had begun to dry up and from this time on the swelling subsided rapidly and was all gone by the twelfth day (Fig 2)

With the exception of the disturbance caused by the itching and swelling, the patient said he felt all right During all this time it was noticed that there was very little tenderness over the infected area

On the eighth day the patient developed a severe pharyngitis tongue heavily coated, pulse rapid, headache, aching of body and limbs temperature 102, complete loss of appetite, very weak, said he felt very much like he had the grip

Patient was in bed twenty four hours and after that his condition returned to normal, except that his appetite was not very good and he complained of an uneasy feeling about the stomach His appetite improved rapidly, but he complained for three or four weeks of his digestion being bad, and during this time the patient said he would be waked early every morning by a dull, sickening ache about the stomach After the fourth week all these symptoms disappeared

I was in doubt as to whether this pharyngitis had any connection with the infection However, I recall that in working with the parasite found in the dog, that in administering the larvæ in capsules to a patient, that one of the capsules broke in his mouth and for several days afterward he was troubled with a severe tonsillitis and pharyngitis

At the time the soil was placed on the wrist of the patient the stools were carefully examined, and twice a week thereafter The examinations were negative until the middle of the seventh week, when the eggs of the uncinaria appeared in the stools This was the middle of April and the patient was still passing the eggs the first of June The preliminary report of this case was presented before the meeting of the Georgia Medical Association in April

Following this experiment a small bit of soil containing larvæ, also a drop of water with larvæ were placed at different points on the skin of the patient to determine whether any difference could be noticed in the effect of the larvæ under the two conditions In eight minutes the patient complained of the stinging sensation at the point where the soil had been placed The soil was immediately removed and the skin was found to be reddened and the itching continued Thirty five minutes after the drop of water was placed on the skin the stinging sensation was felt at that point It took nearly five times as long for the larvæ in the water to gain a foothold It was also noticed that the eruption appeared only around the edge of the drop where the water had begun to evaporate and had deposited a thin layer of sediment and this had acted apparently as so much soil in giving the larvæ a foothold This is in accord with previous conclusions that the larva would not pass readily from water into the skin

Again, on a patient who applied for circumcision a small bit of soil containing larvæ was placed on the prepuce The patient seemed to have an idea that it was some medicine preparatory to the operation, as nothing was said to him about it, and in four minutes he remarked that the prepuce felt as if a fly was crawling over it, and a minute or so later said that it felt as if needles were sticking in it On removing the soil the slightly elevated macules were present as in the other cases After circumcision the prepuce was hardened, infiltrated with celloidin and sectioned, but I failed to find the larvæ I was unable to account for not finding the larvæ, and the experiment was repeated recently with like result on the patient, and the tissue is now being infiltrated with paraffin, and report will be made later

To obtain some idea as to how rapidly the larvæ migrated toward the skin, some soil containing larvæ was placed on the skin and allowed to remain four minutes and then removed and spread out on a slide and examined under the microscope No larvæ were found in the soil, and the skin was then placed under the low power and was found to be covered with the larvæ at the point covered by the soil

The larvæ used in the experiments which were successful were from four days to four weeks old

This is the first report of a successful attempt with the parasite in this country to produce the disease artificially, and demonstrates that the work of Looss holds good with the *Uncinaria americana,* and confirms the views previously presented by me as to the mode of infection of the disease

DISCUSSION

Dr H B Ward, Lincoln, Neb—It is worthy of note that the time observed for the development of the larva in this species is almost the same as the time which was found for the development of the European form The correspondence is all the more striking that we now believe there is a considerable difference between the two species, in fact, it is unfortunate that recent investigators are giving entirely different generic names to the two forms, European investigators agreeing that there is considerable difference between the European and the American form It is difficult to explain the absence of larvæ from the skin in the experiment cited and I should like to ask Dr Smith whether he made sections of considerable areas, and whether he found in those sections no trace whatever of the larvæ and no modification of the skin It is hard to believe that in the case of the skin manifesting the after symptoms mentioned the larvæ should not have been in it The European form was detected under experimental circumstances in the skin of a dog and also in the skin of man in a case of a member that was to be amputated and was experimented on immediately preceding the amputation

Dr Claude A Smith—In response to Dr Ward's remarks I can not say just why I failed to find the larvæ in the sections of the skin The sections presented a decided engorgement of the blood vessels with a tendency toward exfoliation of the outer layers of the epithelium I was surprised not to find the larvæ but I feel that this will be an easy matter in the future, just as at first I was unable to infect the skin with the larvæ I first tried to infect the skin of a dog with the larvæ of the dog parasite, which are much more vigorous than the larvæ of the human parasite but did not succeed Now I find that I have no difficulty whatever in infecting the human skin with the larvæ of the human parasite Any one can do this with the larvæ three or four days old if they will add just sufficient moisture to make sure of the contact of the soil with the skin In making one of the experiments I found that some of the damp soil had accidentally dropped on the skin in places not intended to be inoculated and no result followed, as there was not sufficient moisture to bring the soil in close contact with the skin You will thus see on how small a point can depend the success of an experiment I may find that the failure to find the larvæ in the first case was due to some faulty technic in preparing the sections. However, as I had time to examine only one specimen before leaving home, I was hardly ready to make a report on this part of the experiments. The principal part of my paper was to report the artificial production of the disease by placing the larvæ on the skin, the finding of the eggs of the parasite in the stools being proof of the success of the experiment, in view of the fact that the patient did not have the disease previously.

LINEAR NEVI

A FEW CLINICAL AND PATHOLOGIC CONSIDERATIONS IN REFERENCE TO NEVI IN PARTICULAR AND TO DERMATOLOGY IN GENERAL.*

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CINCINNATI

Inasmuch as the entire subject of nevi is still a dermatologic dark Africa, and linear nevus forms an intricate and obscure division, I will endeavor to confine myself in this paper to a few brief, chiefly histologic considerations, and their application to linear nevi in particular and dermatology in general. So many anomalies, e. g., pigmentations, albinism, hirsuties, angiomata, teratomata, keratomata, atheromata, port-wine stains, defects, etc., are included under the technical term nevus, that it is unfortunate that its original lay character should have acquired scientific value. Additional confusion has attended this unfortunate interchange of terms, by the fact that identical lesions escape classification if their distribution is general instead of limited, and that their development need not be coincident with birth, but months or even years after. Linear nevi not only share in the confusion which attaches itself to nevi in general, but that due to a verbose redundant terminology replete with almost every variety of dermatologic phrase or term, such as nevus congenitalis, zoniformis, herpetiformis, linearis, papillaris, lichenoid, ichthyotic, eczematous keratotic, pigmented, piliferous, hystrix, nigricans, papillomatous, verrucosus, etc., *to suit almost every variety* of clinical condition. This *unfortunate redundant terminology* has been rendered permissible by the great clinical variations which exist in individual instances, at the same time the general characteristics of the affection are so clean cut and definite and stamp it so individually and unmistakably *that* any great digression in nomenclature appears unpardonable. Additional latitude is likewise afforded by an equally variant histology, and though this special feature of the affection has not as yet been extensively elaborated, enough has already been produced to demonstrate that in this distinctly one affection many *varieties of* pathologic lesions are readily found, making its pathology when strictly interpreted as complex and unintelligible as the clinical history. With all this nevus linearis is a dermatologic affection, *sui generis* possessing a complete entity and *for the most part* a very easily recognizable identity. With these characteristics *it serves* an interesting and instructive example of the foibles and weakness of present dermatology, namely, the tendency to individualize and thereby complicate rather than generalize and thereby simplify single types in classification, and secondly, the tendency to give to dermatologic histopathology a diagnostic rather than mere confirmatory value. In other words, there are many cases in dermatologic literature which are reported as special and distinctive types of affection, by authors who doubtless could readily find a place for them in the already overelastic nosology, if less attention were *directed* to *individual* traits and more to general description.

According to Morrow,[1] the distinguishing characteristics of linear nevus are: 1, Its linear disposition in the form of continuous or broken bands or streaks following the long axis of the limb or transversely on the trunk; 2, its unilateral disposition (with some exceptions); 3, papillary or verrucose character, constituted by a hypertrophy of the epidermal and papillary structures; 4, congenital origin, usually present at birth or several months afterward, rarely not before adolescence; 5, sensory disturbances, such as itching, and usually resulting from external irritation; 6, the affection may *increase in extent, remain stationary, regress or undergo* degenerative or malignant transformation. These features of the affection gathered from the cases from the literature and from Morrow's own cases, present variations, and are by no *means constant. In fact,* the character of the affection is so distinctive that it requires but few of Morrow's characteristics to form a tripod on which the diagnosis can unmistakably and securely rest.

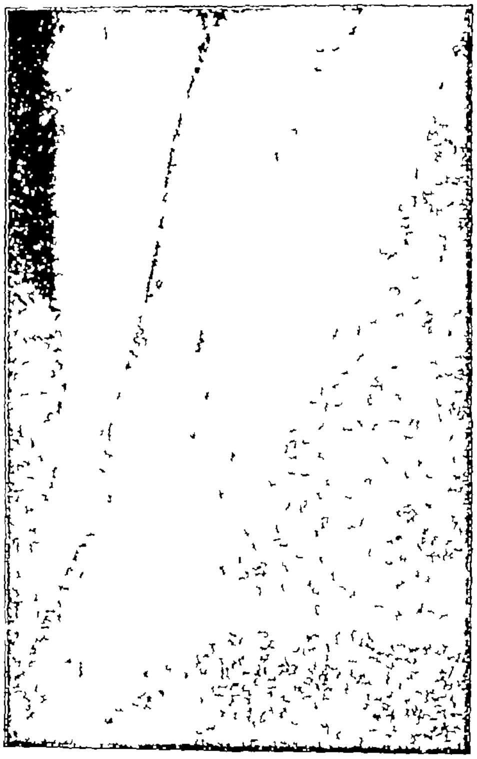
Fig. 1.—Case 1. Linear nevus showing marked spontaneous regressive changes. Dendriform lesions. Photo Jan. 16, 1901.

The following three cases, which were presented to the Cincinnati Academy of Medicine, Jan. 28, 1904, are briefly reported.

Case 1.—(Fig. 1.) W. M., male, aged 20 years. The lesions are firm, hard, papular, somewhat elevated and keratotic, sharply circumscribed in character and brownish red in color. They are sharply limited to the right half of the body, and are distributed in linear form directly over the *great* sciatic nerve, from its point of origin at the ischio *sciatic foramen*, along its entire course, down the *posterior aspect of the thigh*, to its division into the internal *and* external popliteal branches. From this point it is distributed in broken segments along the internal *popliteal* nerve, over the posterior aspect of the calf of the leg, and also along the external popliteal nerve over the external and anterior aspects of the leg, near the fibula The second distribution is over the right half of the penis and scrotum, which are richly covered with a large number of linear filaments, none of which, however, transgress the median line The third distributon is over the right aspect of the forehead and nose and consists of a few relatively faint linear filaments, that are sharply arrested at the median line According to statements of both the intelligent mother and patient, the congenital lesions were not present at birth, but developed a few years later, and have persisted ever since, with relatively little change The only subjective symptom has been an occasional pruritus, but not very annoying in character The objective disfigurement, coupled with the fear that the lesions might terminate into something more serious, induced him to seek medical attention He maintains that his case was never thoroughly understood nor any medical relief afforded until the present diagnosis was established four years ago Figure 1 shows the condition one year later During that year the case showed marked retrogressive changes, the lesions having spontaneously disappeared over the middle third of the thigh The linear distribution and dendritic or branching character of the lesions are well marked in this photograph

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, J. A. Fordyce and H. G. Anthony.

[1] Morrow: New York Med. Jour., 1898.

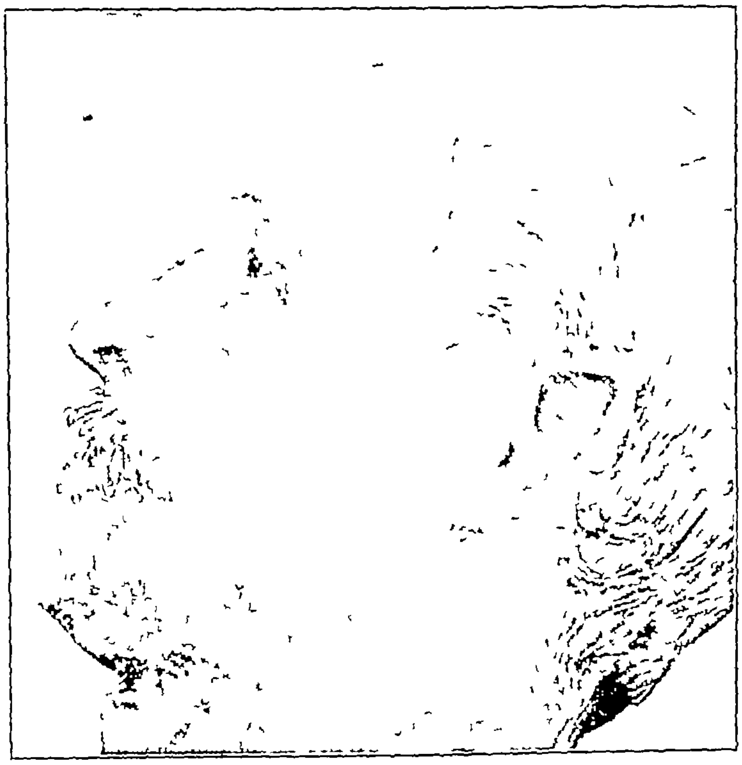

Fig 2

Since then there has been a gradual and spontaneous recurrence of the lesions until the distribution at the present time corresponds closely to the distribution as observed when the patient was first seen It is noteworthy to mention that the lesions always recurred exactly over their former site

Case 2—(Fig 2) J S, aged 38 years, male, presented himself for the first time July 30, 1902, when the accompanying photograph was taken The nevus in this case is situated over the left antero lateral aspect of the scalp, covering a relatively large, irregularly shaped area, not corresponding to the distribution of any particular artery, nerve, metamere, or line of Voight In this case the presence of the nevus dates to the birth of the patient, and was yellowish in color and smooth in character It has remained without material change, with the exception that it has grown decidedly warty in recent years

Case 3—H C, aged 10 years, female, presented herself four years ago, March 12, 1900, with a nevus, present from birth, showing no material change, and with a distribution over the left side of the neck, as recorded by the accompanying photograph (Fig 3) The lesions for the most part were small, papular and sharply circumscribed, smooth, non elevated in character reddish brown in color, and scattered irregularly over the affected area A few were dark and pigmented, on the forehead and scalp the lesions were yellowish in color and preserved a linear arrangement, but were so closely grouped that they formed an irregular, diffused, sharply defined area about the size of a silver half dollar Some of the lesions at the time were successfully removed by electrolysis On Jan 23, 1904, patient presented herself for the second time, when the next accompanying photograph was taken (Fig 4) At this time a material change was noted The former smooth yellowish patch on the forehead had become rough and warty, and was studded with several papillomatous prolongations The lesions over the neck and cheek had greatly multiplied in number and now extended down over the chest in great numbers as far as the nipple The new lesions for the most part were small, sharply defined, darkly pigmented papules, having individually a close analogy to common moles, or, on the whole, a more striking resemblance to the cutaneous metastases of a pigmented sarcoma The unilateral character was still sharply maintained and the median line was not transgressed

If we group these three cases together, the most striking characteristic common to all is congenital origin.

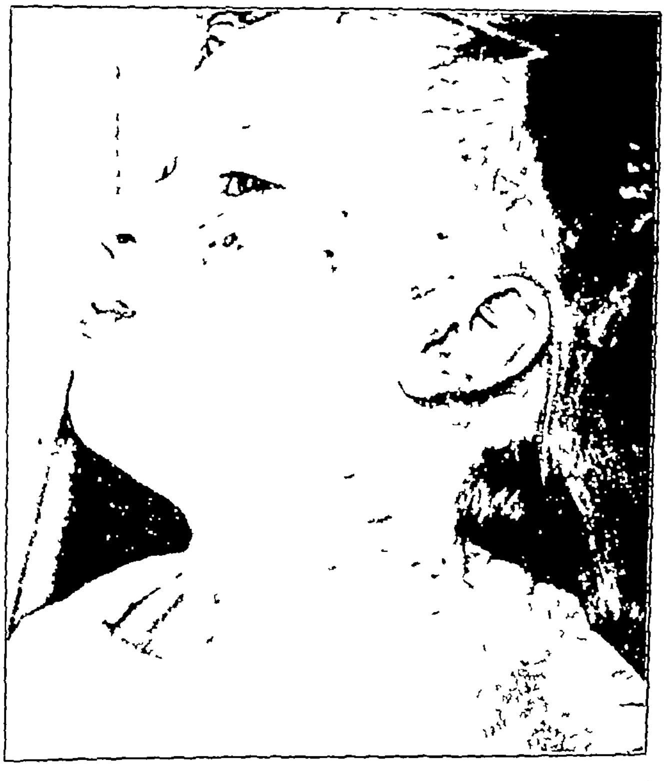

Fig 3—Case 3 Linear nevus of sharp unilateral character with multiform lesions Photo March 12, 1900

Even this character requires in Case 1 the more recent and liberal interpretation of congenital lesions, which the most conservative (Besnier included) are nowadays willing to grant, and that is that their visible appearance need not date from birth, but months or years later By far the vast majority of cases reported in the literature are present at birth or shortly afterward Among those who report a later development are Leven[2] (fourth week), Dyer[3] (sixth week), Ransom[4] (sixth month), Lanz[5] (first year), Werner[6] (first year), Burri[7] (second year), Kobner[8] (second year), Phillipson[9] (second year), Hagen[10] (third year), Gerhardt[11] (third year), Fox[12] (tenth year), Touton[13] (sixteenth year), Dyer[illegible] (seventeenth year), Hallopeau and Jeanselme[14] (twentieth year) Jadassohn[15] (p 372) states that the lesions of this affection are due to general causes, that it is impossible to give to it an anatomic ensemble, and, therefore, the term nevus is an indispensable one

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[2] Leven Deut med Woch 1897 No 41
[3] Dyer Jour Cutaneous and Genito-Urinary Diseases, vol xvii
[4] Ransom Jour Cutaneous and Genito-Urinary Diseases 1896, xiv, p 141
[5] Lanz Dermatolog Zeitschr, vol i No 2 1894
[6] Werner Arch f Derm u Syph, vol xxxiii, p 341
[7] Burri Monatsh f prakt Dermat July 1 1899
[8] Köbner Arch f Derm u Syph vol xxxiii p 393
[9] Phillipson Monatsh f prakt Derm vol ii, 1890 p 338
[10] Hagen Münch med Woch, 1897, No 19
[11] Gerhardt Jahrb f Kinderheilk iv, 1871, p 270

The next most noteworthy feature of the cases is the unilateral distribution of the lesions which, though extremely well marked in two of the cases, is not so apparent in the third (Case 2), because the median line is not approached

Most of the cases in the literature possess a distinctly unilateral character, the lesions in most instances rarely transgressing the median line anteriorly or posteriorly The most prominent exceptions are reported by Dyer[illegible] (3 cases), Pringle[16] (1 case), Spietschka[17] (1 case) Gerhardt[11] (1 case), Ransom[4] (1 case), Kobner[18] (1 case)

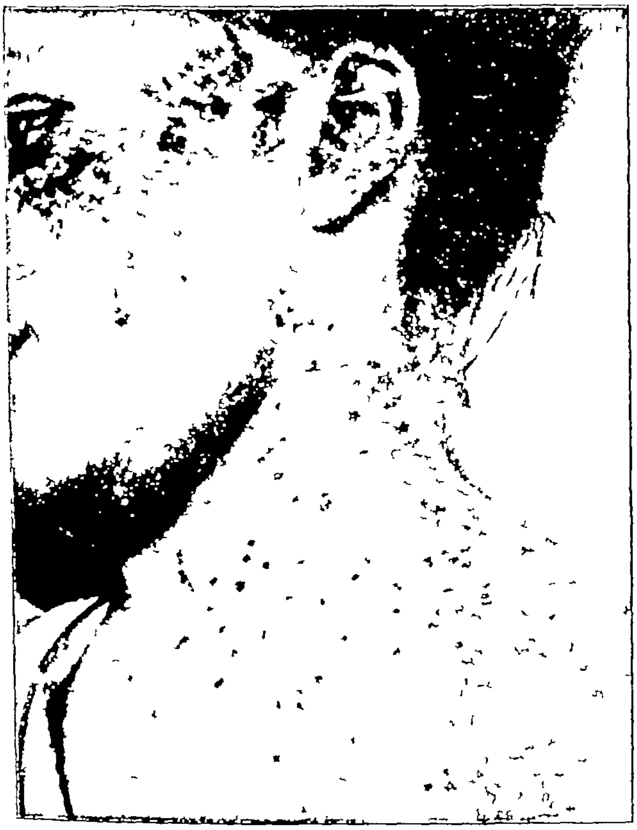

Fig 4—Case 3 Showing great multiplication of lesions in short time. Photo Jan. 23, 1904

The next most salient characteristic is its linear character and disposition,[19] or rather lack of disposition along nerves, lines of Voight, lymph-vessels or other structure

The disposition along structural elements is likewise apparent only in Case 1, and here closely follows, in rather remarkable manner, the great sciatic nerve and its branches

These variations in form and distribution conform with the general report of cases Among those who report a nerve distribution are Saalfeld,[20] Jadassohn[21] (4 cases), Kobner,[18] Simon,[22] Barensprung,[23] Lommel,[24] Etienne[25] (3 cases), Brocq,[26] Campana[27] (11 cases) Among those who maintain a line of Voight distribution are Hagen,[10] Phillipson,[28] Peterson,[29] Galewski,[30] Pecirka[31] Buri[7] Meissner[32] reports a distribution along lymph vessels Lanz,[illegible] Abraham,[33] Pringle[16] and others are opposed to nerve and line of Voight distribution, or any particular form in general (Kaposi[34] states in his text-book "that there is a close relationship between nerves and linear nevi can not be denied from their oft-distinct zoster-like unilateral distribution, and their parallel course over the nerves of the extremities, but an absolute proof is still wanting" He believes that their presence can be more easily accounted for by developmental error than by innervation influences and that the term "nerve nevi" is merely conventional and without neuropathic importance) Galewski[35] reported a case of nevus linearis, with a line of Voight distribution, before a congress of German scientists, at Nuremburg in 1893, and Saalfeld[20] in discussion questioned the character of the distribution, and Galewski in reply admitted that he could not state in the case in question, whether the distribution followed the lines of cleavage, nerves or Voight's lines

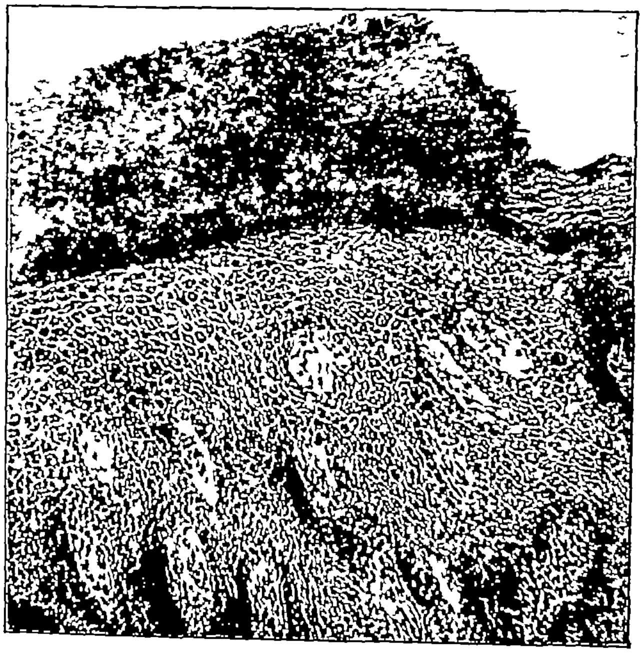

Fig 5—Case 1 Chief pathologic change is heaped up layers of imperfectly keratinized epithelial cells.

The remaining so-called distinguishing characteristics of the affection also showed some clinical variations Stability of the lesions were only marked in Case 2, in Case 1 they constantly recurred and retrogressed, and in Case 3 there was an extensive and rapid development in four years' time Sensory disturbances were entirely absent in two cases, and only slightly (mild pruritus, not constant) present in Case 1 The individual lesions, though for the most part warty and papular, presented wide differences in size, consistency, arrangement and location, even showing almost every degree of variation in one patient (Case 3)

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[12] Fox Brit Jour Derm 1902 p 36
[13] Touton Vehr d Deut. Derm. Gesell. Fifth Congress p 418
[14] Hallopeau and Jeanselme Annal de Dermatol 1894 p 1273
[15] Jadassohn Arch. f Derm u. Syph vol xxxiii p 359
[16] Pringle Brit Jour Derm 1896 p 330
[17] Spietschka Arch f Derm. u Syph vol xxvii p 27
[18] Köbner Arch f Derm u Syph 1888 pp 393-394-933
[19] A pronounced linear character is well marked only in Case 1 and is at best only faintly indicated in the two remaining cases
[20] Saalfeld Alleg med Centralz 1892, No 102
[21] Jadassohn Arch. f Derm u Syph. 1888 p 917
[22] Simon Arch. f Derm u. Syph., 1872
[23] Barensprung Charité Annalen 1863 vol iii, No 2 pp 91 95
[24] Lommel Munich med. Woch 1903 No 36
[25] Etienne Nouv Icon d l Saltpel 1897 Abst. Brit. Jour Derm 1898 p 28
[26] Brocq Annal de Dermatol. 1894 p 701
[27] Campana Giorn Ital d. Mal Ven. e delta pella October 1896
[28] Phillipson Monats f prak Derm vol ii p 337
[29] Peterson Arch f Derm u Syph., 1892 pp 919 930
[30] Galewski Monats f prak Derm vol xvii p 402 Soc.
[31] Pecirka Monats. f prak Derm vol xiii 1891 p 170
[32] Meissner Derm Zeitsch vol ii No 5
[33] Abraham Brit. Jour Derm 1902 p 182
[34] Kaposi Hautkranheiten, 1893 pp 590 591
[35] Galewski Vehand d Deut Dermat Gesell Fifth Congress

The variations in stability, above mentioned, are frequently encountered in the literature, and reference to specific examples seems superfluous Some marked instances in the clinical appearance of the lesions are instanced by Selhorst,[36] Mendes da Costa,[37] and Thibierge,[38] who report lesions which closely resemble commedones or acne Kobner[8] describes a case with xanthoma-like lesions Jadassohn[39] reports that two of his cases were incorrectly diagnosed pityriasis versicolor Touton[13] reports a case under the name "neurodermatitis linearis chronica,' which is pronounced linear nevus by Jadassohn and Galewski Robinson,[40] on the other hand, reports a case "nevus linearis," which is pronounced by Lutz keloid or papilloma Fox[41] records an apparent case under the name localized ichthyosis Brocq[20] a case as lichen simplex chronicus Hallopeau[14] reports one as nevus linearis lichenoides, which he would have diagnosed, on account of its late appearance (twentieth year), lichen planus, had not the slight prodromal itching ceased entirely Fox[12] reports the lesions of one case as probable myomata Fox,[42] in another case occurring in the scalp, states that many cases of so-called white moles and congenital alopecias are probably "nevi linearis"

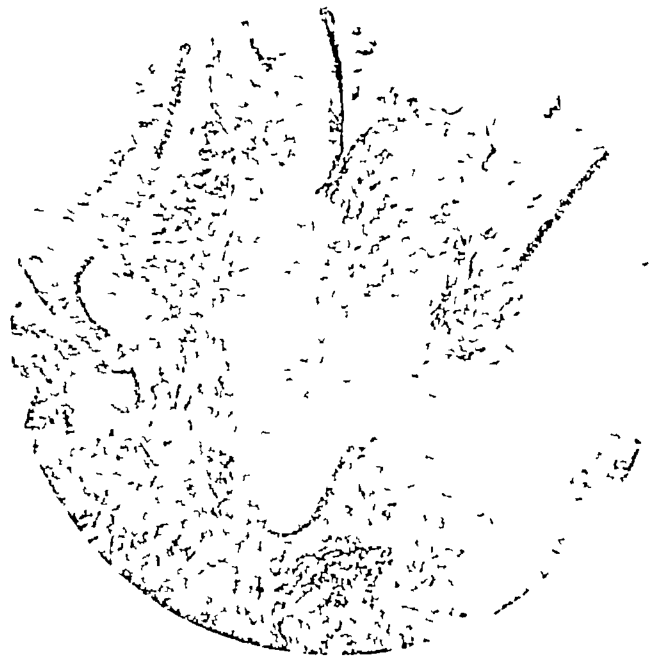

Fig 6—Case 2 Chief pathologic change of this case is a papillomatous structure

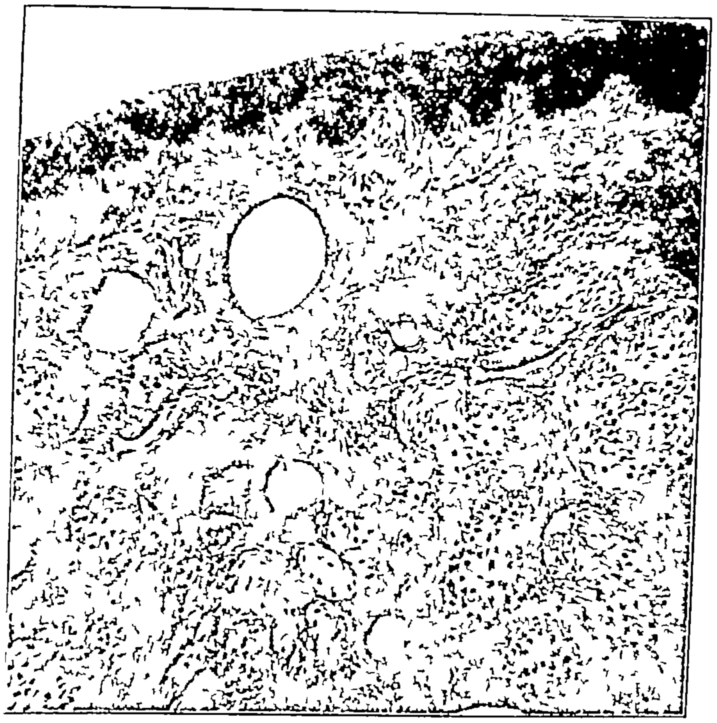

Fig 7—Case 3 Adenoma of the sebaceous glands from yellowish lesion of the scalp

From the foregoing brief clinical descriptions, and the superficial survey of the literature, the very complex diverse clinical nature of this affection is readily apparent And yet in spite of its multifold nature, its burdensome nomenclature, the endless variety of lesions, their obscure and variegated distribution, and their varying stability and instability, there is something to the clinical ensemble that is clear, distinctive and clean-cut, and readily gives the affection an unmistakible identity It is strange to state, that however diverse its clinical history, its histopathology presents a still more diversified character There is scarcely an element of the skin, epidermis, dermis or glandular element that is not involved in some form of pathologic change, stratum corneum, rete spinosum, papillæ, lymph and blood vessels, sebaceous and sudoriferous glands, pigment cells, hair and their follicles are all variously and unequally involved in some form of change Pathologic variations and differences exist not only in separate individual cases of this distinctly one affection but often in one and the same case, so wide in range and sweeping in character as to almost precipitate us in an abyss of histologic agnosticism Not only is there a marked lack of analogy of the lesions for each other, but there exists at times the most striking analogy for affections totally different in character, warts, moles, adenomata, sarcomata, clavus, false and true keloid, xanthoma, etc, are so closely imitated in histologic structure that a discrimination is deceptive, if not impossible

In Case 1 the chief pathologic change (Fig 5) is a hyperkeratosis, consisting at times of a single heaped-up layer of only partially keratinized epithelial cells which, for the most part, retain a fairly well-developed nucleus, at times there are several successive layers of these partially keratinized cells of varying thickness and showing different degrees of keratinization The papillæ of the skin and the interpapillary processes of the rete show a moderate amount of elongation under the hyperkeratotic area, and the involved papillæ show a moderate amount of leucocytic infiltration, commensurate with the corresponding inflammation from simple me-chemical pressure The general histopathologic appearance bears a very close resemblance to ordinary clavus, from which, as far as microscopic evidence shows, it is practically indistinguishable

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[36] Selhorst Brit Jour Derm November 1896

[37] Mendes da Costa Nederland Tijdsch v Geneesk Deel, No 7 Abst Brit Jour Derm 1897 p 207

[38] Thibierge Annales 1896 p 1298

[39] Jadassohn Arch f Derm u Syph loc cit 1888 p 933

[40] Robinson Jour Cutaneous and Genito-Urinary Diseases, vol iv Monats prak Derm 61 p 536

[41] Fox London Derm Soc Oct 1 1897 Brit Jour Derm, November 1897

[42] Fox Brit Jour Derm 1898 p 21

In the *Journal of Cutaneous and Genito-Urinary Diseases* (Vol xviii, p 195), there is a photogravure in an article on "Leucopathium Unguium"[43] representing a single layer of imperfectly keratinized hyperkeratosis, taken from this particular case Touton[13] reports a case of almost identical histologic structure under 'Dermatitis Linearis Chronica" which Jadassohn and Galewski, in discussion, call 'nevus linearis"

In Case 2 the chief histopathologic change (Fig 6) in the yellowish-white slightly papillomatous hair denuded lesion of the scalp (lesions which Fox[41] states are probably often reported as congenital alopecias or white moles), was a papillary hypertrophy hyperkeratosis and acanthosis, in most respects identical and indistinguishable from the histologic structure of common and venereal warts In other respects there were no important or characteristic changes

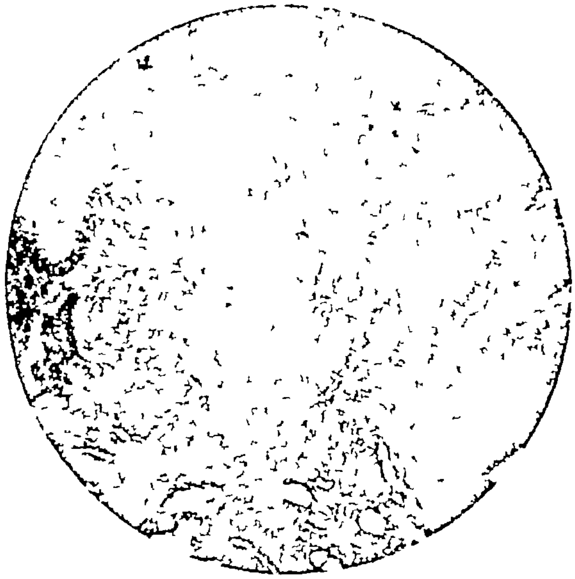

Fig 8—Case 3 Papillomatous structure of warty excrescences

In Case 3 the most interesting and varied pathologic changes are encountered The yellowish-white, hair-denuded scalp lesion, which is analogous in size, color, location and distribution to the similar lesion in Case 2, showed a very extensive adenoma of the sebaceous glands, which consisted of huge masses of lobules, closely crowded together and occupying almost the entire cutis (Fig 7) The structure and nuclei of the sebaceous cells were well maintained The other changes were of slight character and not of noteworthy mention, except a few papillomatous excrescences, which had only recently made their appearance, and which showed the same warty papillomatous structure as Case 2 (Fig 8) This latter applies merely to the excrescences and not to the adenomatous base from which they spring This structural dissimilarity between clinically similar lesions is more striking, by reason of the fact that the lesion in Case 2, according to the patient's history, was originally smooth like that of Case 3, and the papillomatous masses had also likewise been secondarily acquired This observation refutes Jadassohn's[15] dictum that lesions which preserve the same clinical characteristics in Nevus Linearis' also maintain the same histologic structure

Jadassohn[44] reports a similar adenoma of sebaceous glands in two cases of nevus linearis, and states that doubtless many cases reported in the literature, under the names of sebaceous adenomata, etc, can be properly classed with the linear nevi Pollitzer's[45] case, which is reported under the name of 'adenoma sebaceum," can probably be correctly quoted as an example of such incongruity Bandler[46] reports two cases, in both of which the lesions were located on the scalp, and in both of which there were adenomata sebacea, in all respects similar in histologic structure to Case 3 Moeller[47] states that adenoma of the sebaceous glands is one of the forms of histologic change

The lentiginous lesions of Case 3 presented various forms of histologic structure, the firm, glistening, yellowish-red, slightly elevated lesions showed a dense connective tissue hypertrophy which extensively invaded the entire cutis and pars papillaris, filling these structures with a dense meshwork of connective tissue fibers which closely enveloped the few remaining hairs vessels and glandular elements (Fig 9) In general, the histologic appearance closely resembled and was practically indistinguishable from false or true keloid

The slightly elevated, oval-shaped hairy lesions, which in gross appearance resembled ordinary pigmented moles, presented the characteristic histologic structure of these lesions, a moderate cellular infiltration of the papillæ, pigment accumulation and hypertrichosis (Fig 10)

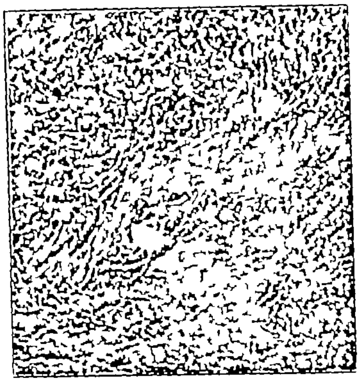

Fig 9—Case 3 Keloid like structure of fibro-connective tissue from a glistening yellowish red lentiginous lesion.

The small round, darkly pigmented lesions, which were rapidly multiplying on the face and particularly on the neck and chest, showed an extensive spindle-shaped invasion of the pars papillaris (Fig 11) connective tissue, numerous thin-walled capillaries, and a marked asymmetry of structure and arrangement that closely resembled and was practically indistinguishable from sarcoma cutis (Fig 12) In this particular case, then, the various lesions show the most marked variety of histologic structure, varying in analogy from sebaceous adenoma to common and venereal warts, false and true keloid moles and sarcoma and if Case 1 is included, the histologic analogy also showed clavus

Other histologic anomalies of linear nevi encountered in the literature, include "Adenoma of the Sudoriferous

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[43] Heidingsfeld Jour Cutaneous and Genito Urinary Diseases January 1903

[44] Jadassohn Loc cit vol xxxiii pp 362 363

[45] Pollitzer Jour Cutaneous and Genito-Urinary Diseases vol xi p 475

[46] Bandler Arch f Derm u Syph xlix July 1899 No 1

[47] Moeller Arch f Derm u Syph vol lxii No 1 1902 p 53

Glands," by Peterson,[29] Elliot,[48] Beier[49] Selhorst[30] reports his case as histologically indistinguishable from acne vulgaris, which affection it also resembles clinically Meissner[32] reports the histologic changes of his to consist largely of proliferated and infiltrated lymph vessels Kobner[50] reports the histologic structure of his case, similar to that of xanthoma, and containing the yellowish-brown pigment of the latter affection, and styles it a xanthoma multiplex nevus Although lesions contain an abundance of connective tissue and vascular elements, he objects to classifying the affection with the fibromata, because he regards the latter as invariably springing from newly formed and not pre-existing tissue The lesions in a case reported by Fox[12] are myomatous, though they apparently lack histologic confirmation Bertamini[51] reports spherical concretions on the surface of the skin, involving the sweat-duct orifices, and containing bodies resembling psorosperms

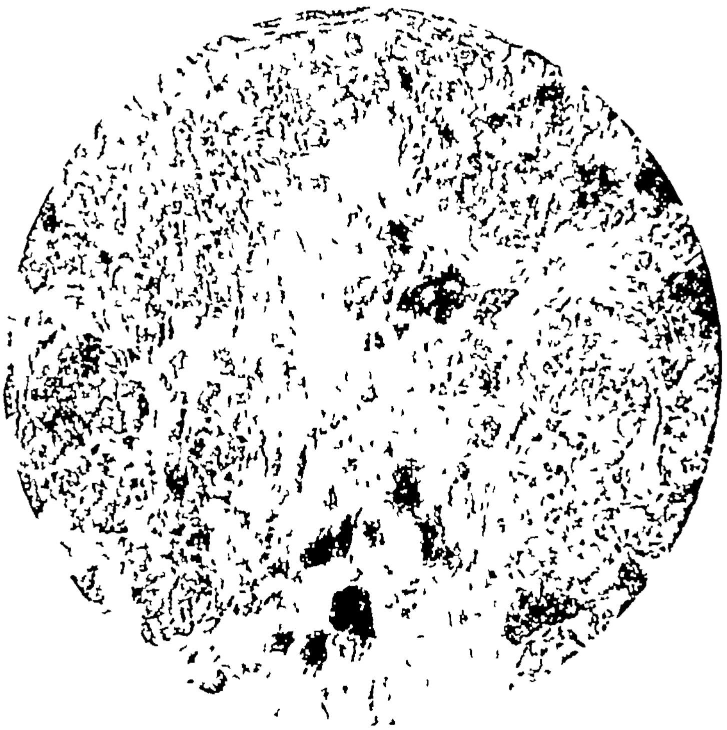

Fig 10 —Case 3 Pigment accumulation from a small mole like lesion

It is evident that linear nevus presents clinical and histologic variations of such complex and diversified nature that if each be given special or undue significance the resulting confusion would readily permit an uncertain and doubtful classification of cases It is this highly developed feature of present-day dermatology which encourages flagrant excesses and causes an unnecessary and unfortunate multiplication of disease Peterson[29] utters the incrimination when he states in reference to this very condition that "it is an example of how many different forms are still gathered together under the collective name of nevus, it is high time to break the frail and elastic bonds which loosely hold together the papilloma, fibroma, adenoma pigmented moles, etc, under a congenital mask, and name each in accordance with its histologic structure" It is the converse of this proposition which is true The present demands that the frail and too elastic bands be not ruptured, but strengthened and reinforced It is their frailty and inelasticity that permits in great measure the unnecessary disparity in the existing classification, and to base its nomenclature on histologic structure would precipitate the affection into an inextricable state of chaos

Brocq[20] reports an apparent case, with a distribution over the small sciatic and external saphenous nerve under "Lichen Simplex Chronicus" Hallopeau and Jeanselme[14] report a case which, on account of its extreme late appearance (twentieth year), they would have diagnosed "lichen planus," had not the slight prodromal itching ceased later entirely Robinson[52] reports an apparent case as "lichen planus," and Lutz calls a case presented by Robinson "keloid," or "papilloma," and takes exception to the term nevus unless applied too strictly to vascular lesions Touton[13] reports a case as 'neurodermatitis linearis chronica," which Jadassohn and Galewski pronounce "nevus linearis" Spiegelberg[53] describes a typical case under "Congenital Papilloma," and another under 'Localized Ichthyosis" Flittner[54] describes a case under "Ichthyosis Cornea," Leven[2] under "Dermatitis Linearis Neuropthica," and Lommel[24] reports two apparent cases under "Chronic Zoniform Eruption," and Bertamini[51] a case as "Linear Disease"

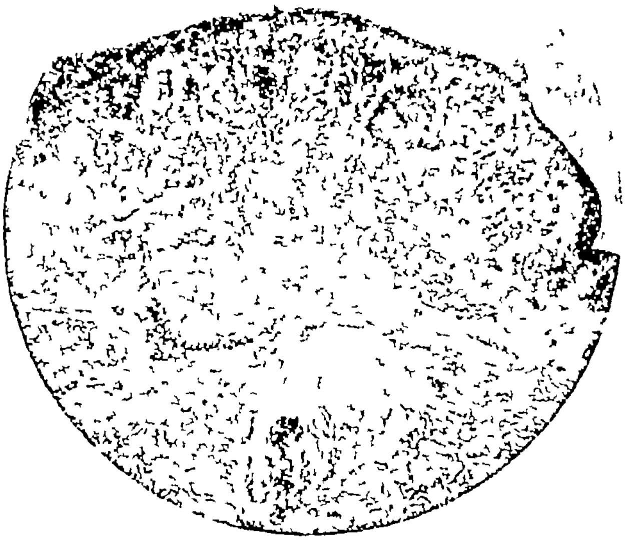

Fig 11 —Case 3 Extensive cellular infiltration and epithelial proliferation resembling sarcoma from one of the rapidly multiply ing pigmented lesions

This affection well illustrates that reformed dermatology of the future should strive for a simpler and more collective classification It also aptly illustrates that the efforts of Phillipson[55] and others[56] to establish a reformed dermatology on purely histopathologic genetic basis is hopeless and insuperable [43] Jadassohn Unna[57] and Peterson have all made vain efforts to establish linear nevi on a purely histopathologic basis Unna[57] states that he "strove to establish the conception of nevi on a series of purely anatomic considerations The discovery that new growths pass through a very peculiar development, in which the first and last stages differ so materially in histopathology, revealed that this was an utterly impractical measure" He[8] also states that if nevi lineares are topographically similar and clinically and histopathologically different, they are not an entity, and can not be collectively grouped with nevi, and this very affection will form the starting point for an entire new study of the nevus question

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[48] Elliott Jour Cutaneous and Genito Urinary Diseases 1893 vol xi p 168

[49] Beier Arch f Derm u Syph vol xxxi No 3

[50] Köbner Arch f Derm u Syph 1888 404

[51] Bertamini Arch f Derm u Syph vol lxii pp 35 39

[52] Robinson Jour Cutaneous and Genito-Urinary Diseases 1893 p 286

[53] Spiegelberg Munich med Woch 1896 No 30

[54] Flittner Arch f Derm u Syph 1870 p 653

[55] Phillipson Arch f Derm u Syph, vol xlviii

[56] Torok Allg Diagnos d. Hautkr Veg auf Path Anat Weisbaden 1895

[57] Unna Histopathologie der Haut 1894 p 1145

My personal impressions lead me to believe that these differences virtually exist and though their explanation is not forthcoming, it is both dangerous and fallacious to establish solely for such reason new types of affection Any three or more characteristics as tabulated by Morrow or gleaned from carefully reported and well-observed cases, is a sufficient tripod to rest a secure diagnosis The affection exquisitely demonstrates the unreliable aid of the microscope, yet Unna admits that he would have diagnosed one case a chronic eczema had not the organism been absent Magnus Moeller[17] reports a case, the diagnosis of which wavered between linear nevus and lichen planus, until firmly established by the microscope and Bertamini[31] reports a case whose clinical diagnosis was lichen planus, and the histologic linear nevi I do not believe that our present histopathologic knowledge, in spite of assurances to the contrary, has advanced to such a degree that the exact nature of a disease can be readily determined by mere pathologic examinations If the greatest conflict of opinion arises at times from the mere description of a cell (Plasma Cells, Unna, Marschalko,[59] Neisser,[60] Jadassohn, Almkoist,[61] et al) it is not suprising that an utter lack of uniformity should attain in the histologic considerations of general conditions, attributable to more than a varied location, duration secondary changes, therapeutic influences and technic In the effort to give histopathology its greatest degree of importance, it is being robbed of much practical value by imparting to it too much intricate detail With all its classic interest and all its intrinsic worth nevus linearis clearly illustrates that it possesses at best mere confirmatory value

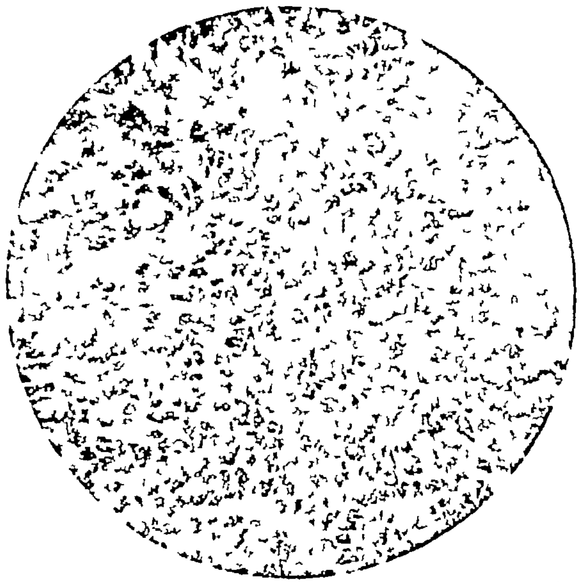

Fig 12—Case 3 Same as Figure 11 strongly magnified showing character of cellular infiltrate

To briefly recapitulate, linear nevus is a dermatologic affection, for the most part easily recognized as a type of *sui generis*, possessing an unmistakable identity Great variations in clinical appearance, location, duration, distribution, development and secondary changes have permitted an endless amount of unnecessary confusion in classification, and an unfortunate redundant nomenclature It also possesses an exceedingly varied pathology Great disparity in histologic structure exists between lesions that are clinically similar, great disparity exists between lesions in close proximity from the same patient, a deceptive histologic resemblance often exists between lesions of linear nevi and types of dermatologic affection, totally different in character The affection aptly illustrates some foibles of present-day dermatology, namely, the tendency to individualize and thereby complicate, rather than generalize and thereby simplify single types in classification, and secondly, to give to dermatologic pathology an inflated diagnostic rather than a mere confirmatory value

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Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART II—THE SERVICE AS IT IS TO DAY

(*Continued from page 547*)

(A) ORGANIZATION OF THE BUREAU

The Bureau of Public Health and Marine-Hospital Service forms a part of the Treasury Department, and is presided over by a surgeon general

For executive administration, the bureau is divided into six principal divisions, each presided over by an assistant surgeon general, as follows

Division of Marine Hospitals and Relief, Division of Domestic Quarantine, Division of Foreign and Insular Quarantine, Division of Sanitary Reports and Statistics, Division of Personnel and Accounts, Division of Scientific Research There is also a Miscellaneous Division presided over by an assistant surgeon

DIVISION OF MARINE HOSPITALS AND RELIEF

To this division are sent all matters relating to the marine hospitals, 22 in number, owned by the service and to the patients, numbering 58,000, treated annually in these hospitals, and in some 122 relief or contract stations The purveying depot, a large building located in New York, is under the direction of this division, to which are also referred all matters relating to hospital supplies, including subsistence, drugs, hospital furniture, surgical instruments and appliances, plans and specifications for hospital construction, and the conduct of the sanatorium for consumptive patients at Fort Stanton New Mexico

DIVISION OF DOMESTIC QUARANTINE

This division has in charge all matters relating to the national maritime quarantine stations, embracing 19 complete disinfecting stations and 18 inspection stations At the former are hospitals, barracks, disinfecting machinery, steamers and small boats, all requiring constant care and attention This division also must see to the expenditure of appropriations for new stations, involving purchase of lands, construction of piers and buildings, said construction being generally under the supervising architect of the Treasury on plans approved by the bureau and the department but occasionally the bureau attends to this construction itself

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58 Unna Monats f prak Derm xii p 296 xx p 477 Report of Deut. Naturforch

59 Marschalko Arch f Derm u Syph xxx, p 3

60 Neisser Arch f Derm u Syph xxxi p 387

61 Almkoist Arch f Derm u Syph lviii p 91

All matters relating to the quarantine regulations and their interpretation, matters relating to interstate quarantine and suppression of epidemic diseases, as well as quarantine on the Mexican and Canadian borders, are handled through this division

DIVISION OF FOREIGN AND INSULAR QUARANTINE AND IMMIGRATION

To this division is assigned the management of the national quarantine stations in Hawaii, Porto Rico, and the Philippine Islands the supervision of officers detailed for duty in the offices of the United States consuls in foreign ports who, with the consuls, sign the bills of health, and all matters pertaining to the *medical inspection of immigrants*

DIVISION OF SANITARY REPORTS AND STATISTICS

This division is charged with the preparation of the *Public Health Reports,* published weekly by the bureau, and all matters of a statistical nature are referred to this division

DIVISION OF PERSONNEL AND ACCOUNTS

This division has supervision of all matters relating to the personnel of the service, examinations for admission to the corps of commissioned officers, examinations for promotion, appointments and resignations, appointment of boards for the physical examination of officers of the Revenue-Cutter Service This division has also charge of the bookkeeping of the service

DIVISION OF SCIENTIFIC RESEARCH

To this division are referred all matters relating to the hygienic laboratory, as well as requests for scientific investigation of special diseases as, for example, the recent investigation of the so-called spotted fever in the Bitter Root Valley, Montana The initiatory steps for special investigations of this character are taken in this division, but any prolonged or technical work connected therewith is turned over to the laboratory

Requests for special investigations of water pollution or local causes for the spread of typhoid fever are referred to this division

The officer in charge of this division examines all current literature relating to scientific medicine or sanitation, and keeps a card index of the same

MISCELLANEOUS DIVISION

This division has charge of the mailing of all bureau publications, and certain miscellaneous duties relating to the reports of necropsies from the marine hospitals, the medical examination of claims for benefits on account of injuries received by the crews of life-saving stations, certain matters relating to the annual report etc

(*To be continued*)

TRAVEL NOTES

V*

ITALY AND THE GREAT ANTIMALARIAL CAMPAIGN

(*Continued from page 549*)

LEWELLYS F BARKER MD

CHICAGO

BERLIN, June 25, 1904

The medico chirurgical division of the R Instituto di Studi Superiori at Florence has a strong faculty though not all the members of the faculty live in Florence some of them holding professorships also at Pisa, Siena, Modena, Genoa or Cagliari Grocco is the distinguished clinician there, he has an immense consultation practice, drawing patients from great distances in the country round Guido Banti has the chair of pathologic anatomy and Eugenio Tanzi that of psyschiatry Ottone Barbacci, who has written so many thorough collective reviews for the *Centralblatt f allgemeine Pathologie,* lectures here on pathologic anatomy, though he is professor in Siena Gino Galeotti, too, who contributed the much commented on article in the last volume of the *Zeitschrift fur physiologische Chemie* on the precipitation of albumins with metals, bringing the whole process under the "phase rule" of the great New Haven physicist, Gibbs, lectures here on general pathology, though his regular chair is at Siena

The insane asylum under the direction of Professor Tanzi lies some distance outside the city Excellent work is being done there, both in the wards and in the laboratory Dr E Lugaro, the editor of the very progressive *Rivista di patologia nervosa e mentale,* is one of the most active members of the staff I enjoyed much seeing the original preparations on which his publications regarding experiments on the spinal ganglia and posterior roots of the spinal nerves are based Just now Lugaro is analyzing all the cases of dementia precox (in the sense of Kraepelin) which have been met in the asylum, his article should form a valuable contribution to our knowledge of this remarkable disease

It is to be hoped that in the revival of all interests now noticeable all over northern Italy that Florence will regain some of its former intellectual prestige Its past history would indicate that there must be something extraordinary in the local conditions there In how far, however, the *genius loci* was responsible for Dante, Giotto, Fra Angelico, Benevenuto Cellini, Michael Angelo and Savonorola, it is hard to guess Whether or not the city that did so much to distinguish itself in the golden age of Italian art will, in the upswing of Italian science, attain to a high place, who can say? With the modern tendency of universities and research laboratories toward the largest cities, the chances are perhaps against it

The physician traveling in Italy need not go to Venice to see universities and hospitals, but he will scarcely be able to resist visiting the city for its own sake And if he arrange to arrive there at night and the weather favor him, he will have memory traces the stamp of which he may hope to be indelible To step from the bustling railway station into a gondola, to lean back on the black leather seat, to glide through the quiet canals with the moon shining on the facades of the old palaces, to listen to the weird cries of the gondoliers' *a oel* or *sia stali* as they suddenly turn the corners of the narrow, twisting channels on the way to the hotel is an experience to treasure for a lifetime With the charm and mystery of St Mark's, the Palace of the Doges, the treasures of the Academy of Fine Arts and the School of San Rocco one can do without other medicine for awhile Almost by accident, however, one afternoon we wandered into the center of medical Venice Near the famous church of Santi Giovanni e Paolo, on the north side of the same square opposite the fine equestrian statue of Bartolommeo Colleoni, rises the rich facade of the Scuola di San Marco, dating back more than 400 years and known to every visitor of Venice on account of the singular reliefs (in perspective) of two lions On entering the building we found that it, together with the adjacent Dominican monastery, is used as a city hospital It is interesting to see how this fine old structure, with here and there a magnificent carved ceiling, has been transformed to the uses of an immense charity clinic The attendant who accompanied us, and busied himself to see that we missed none of the points of interest, finally led us to a human *Sehenswurdigkeit* It turned out to be something we had scarcely expected, a mere handful of man, curled up like a ball reputed to be 104 years old We spoke to him, but he was dull of sense and there was scarce noticeable reaction his eyes were motionless and dim, there was little left of him but skin, bones and a few gristly cords The scene recalled Stevenson's dying Paumotuan, "the human tragedy reduced to its bare elements a sight beyond pathos stirring a thrill of curiosity"

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* The previous articles in this series have been as follows 'Travels as a Means of Post Graduate Medical Education by Dr Nicholas Senn July 23 page 261 Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr Lewellys F Barker July 30 page 328 Spain and Ramon y Cajal ' by Dr Lewellys F Barker Aug 6 page 403 "Leprosy in the Hawaiian Islands by Dr Nicholas Senn Aug 13 page 462

There is no university in Venice and no medical school proper The Royal School of Obstetrics situated here and visited by about fifty students, is incorporated as a part of the University of Padua Professor Paolo Negri is the director

(*To be continued*)

VI

FATHER DAMIEN THE LEPER HERO

NICHOLAS SENN, M D
CHICAGO

S S Sierra July 18

> Nothing is more delightful than the light of truth"—Cicero

There are heroes and heroines, men and women, who in times of danger do not hesitate to sacrifice their lives in attempts to save others Heroism consists in acts of unselfishness and courage of the highest type, under conditions of impending danger or calling for a degree of self sacrifice from which the average mortal instinctively shrinks Untimely death and self imposed deprivation of the comforts of life for the benefit of others who are in danger or distress exact from heroes the highest and noblest qualities of man—undaunted courage, unselfish charity and unconquerable love, and boundless humanity toward mankind Such a combination of the highest virtues is indeed rare, and when found entitles the hero to profound respect highest admiration and permanent gratitude of all nations and more especially the one benefited by his sacrifices The world looks to the battlefield as the arena for the exhibition of heroism in its truest grandest and noblest sense Military heroism has from time immemorial been immortalized in song and prose Heroism in war signifies courage and patriotism but lacks humanity and the greatest of all virtues charity The soldier knows that his bravery will be recognized and that in the event of his survival he may confidently expect that a grateful nation will reward him for his valiant services

Sudden, painless death in the heat and tumult of battle is in itself an honor a sufficient inducement for many to seek it when imbued with the justness of the cause for which they fight and stimulated by the fire of a burning patriotism Heroism in the cause of humanity, stripped of the excitement and glories of war, brings out the best attributes of man Heroism rendered at the altar of humanity, with no expectation of renown or reward among the sick and dying, under conditions attended by vastly more danger to life and health than the risks of war, gives testimony of the highest type of a hero or heroine

Such a hero was Father Damien the subject of this sketch During his life devoted to the welfare of exiled lepers, his motives were often misunderstood and his noble soul experienced many a pang when he was maligned as was not infrequently the case We can say of him

> "Glory comes too late when paid only to our ashes"—Martialis

Father Damien is no stranger to the medical profession (Fig 1) His heroic labors among the banished, maimed and disfigured lepers of Molokai, and his glorious death from the disease he fought so courageously, have made him a hero in the estimation of the medical profession and in the eyes of the entire world—a hero whose name will live long after the disease he fought and from which he died will have become extinct. As a humanitarian, his memory will go down to the future side by side with that of Henri Dumont as the leper hero, it will never die The whole life of Father Damien from the cradle to the grave was an exemplary one, and his work was characterized by unselfishness and an ardent devotion to his manifold and trying duties How it was possible that statements to the contrary could have been made during his lifetime is a mystery that admits only of one explanation—he, like other great men, had enemies whose envy was aroused by the marvelous success in everything he attempted His entire career as a priest and friend of the lepers breathes a spirit of true earnest Christianity which those who knew him best never questioned The malicious attacks on his character were made by men who were too cowardly to visit the leper settlement and observe his work among the thousand unfortunates whose pains he soothed and to whose spiritual needs he ministered with an unparalleled zeal and untiring devotion, whose dying he consoled, and whose dead he buried in coffins and graves often made by his own hands As a true minister of the gospel, he served his God and leprous congregation with a devotion and faithfulness that knew no limits, by day and night, in sunshine and storm

Father Damien's name in the world was Joseph de Veuster, He was born at Tremelo, near Louvain, Belgium, Jan 3, 1840 His parents were honest, hard working, devout peasants who raised a family of seven children, four of whom entered the service of the church—his older brother, Pamphile, and two sisters The earliest desire of his boyhood was to become a priest, in which vocation his older brother preceded him The parents being poor, he struggled with the greatest difficulties to realize his desire He finally entered the College of the Fathers of the Sacred Hearts of Jesus and Mary, and entered holy orders at the age of 19 The splendid health which he enjoyed throughout his long student life was gained during his boyhood days, spent in hard work on the farm The cloister life made him abstemious, and exhibited an irresistible attraction for the rigors of austere penance Early piety and a tender affection for his parents, as shown in all his letters, laid the foundation for a successful priestly career When he entered the cloister he was the very embodiment of health, strength and activity Endowed with great mental power and applying himself closely to his studies, his progress was rapid, and when he left the institution he was well prepared for his chosen life work Although serious, he was not ascetic In a letter to his parents during his theological studies, in commenting on the uncertainty of life, he says "The thought of the uncertainty of to-morrow must, no doubt, cause bitter grief to a sinful soul, but for us, Christians or religious, who look on ourselves as exiles here below, and who long only for dissolution of our body that we may enter our true country, there is, it appears to me, only joy and blessedness in the thought that each moment we get nearer to the last hours of our life" His splendid health, his love for an abstemious life and es

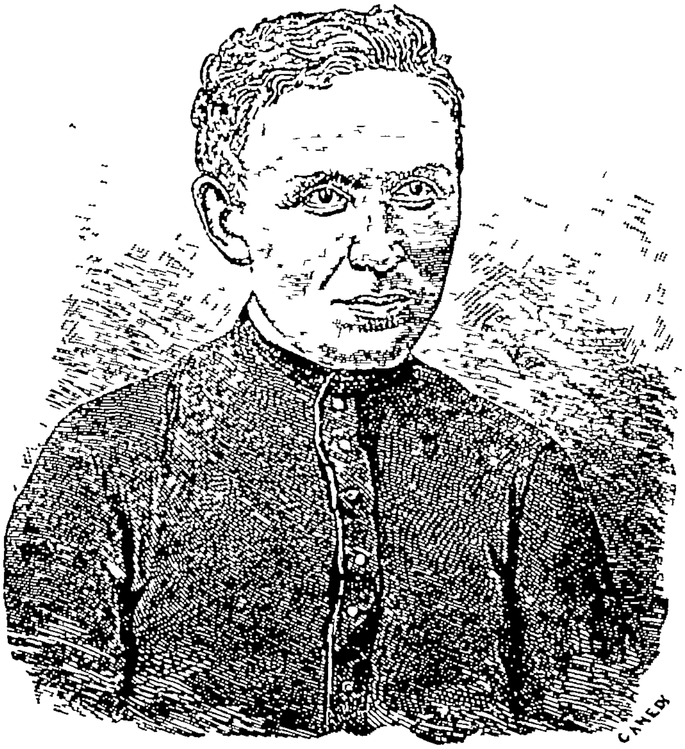

Fig 1 —Fr Damien de Veuster at 33 years of age when starting for the leper settlement

was very fortunate, indeed, that Father Damien contracted the macular instead of the tubercular form of the disease, and that the palmer side of fingers and hands remained clean, permitting him to perform his spiritual functions until a few days before his death, which occurred April 15, 1889

So ended the precious life of one of the greatest benefactors of the human race—the hero of charity! The greatest heroism of Father Damien was exhibited during his illness, as he persisted in working with hands and heart until a few days before his death What could touch the human heart more than to see a leper priest render manual work and spiritual consolation to a congregation of lepers, the blind leading the blind, the lame supporting the lame! His heroic death has silenced the vile tongues The surviving lepers can not be comforted, they will carry their grief over the loss of their faithful shepherd to their graves The entire population of the Hawaiian Islands—in fact, the whole world—mourns his death He has gone to his well earned reward His mangled remains sleep under the shadows of the pandanus tree which first sheltered the robust, devoted young priest awaiting a glorious resurrection (Fig 3)

Volumes have been written in praise of Father Damien Monuments have been erected to his memory, charitable institutions have sprung up to immortalize his heroic charity but if that humble priest could speak to his admirers he would say "I have only done my duty, praise God Send greetings and extend a helping hand to my leper friends"

(To be continued)

Clinical Notes.

A CASE OF CARBOLIC ACID GANGRENE

E DUNSTER KREMERS, M D

HOLLAND, MICH

Introduction—I am able to report this case through the kindness of Dr A Leenhouts, under whose care I saw the patient This report is added to an already long list of cases, not because of its rarity or its unusual features, but because some physicians are still unaware of the danger in using carbolic acid as a dressing and in the hope that through their physicians' knowledge the laity may understand how to avoid the needless destruction of fingers and toes by this poison

History—G H R, age 15, male, schoolboy The patient has always been a strong, healthy boy On July 4, 1904, he was washing dishes and cut the little finger of the right hand by a piece of glass There had been a case of tetanus in the town and, on the following morning the boy's sister fearful of "blood poisoning," applied a rag soaked in carbolic acid solution She had been using a solution as a wash on an infected arm and had seen no ill effect The solution was made weak in the proportion of about three drops of the liquefied acid to fifty drops of water Twenty four hours later this rag was removed and the skin of the finger "looked funny" The patient thought that the antiseptic was failing in its work and accordingly a stronger solution was made and the bandage bound very tightly The next morning the finger was "all white" and was massaged

Treatment—July 8 Dr Leenhouts was consulted and applied a wash of boracic acid, hoping to restore the circulation July 11 the finger became black and began to be tender and July 13 the patient went to bed feeling badly and with evident fever At this time the finger was entirely bluish black with a well marked line of demarcation about one half inch below the metacarpo phalangeal joint Above this there was a line of redness and swelling

Operation—Under chloroform anesthesia the finger was amputated at the metacarpo-phalangeal articulation No pus was found a healthy flap was secured and united by silk sutures July 14 the temperature rose to 103 degrees at evening was 101 and the following day normal There was no further trouble and the wound healed by first intention Urine examination was negative

Comments—The strength of solution used in this case was probably about 5 per cent, because water will take up only that much It was applied for about forty eight hours and caused the patient no pain or discomfort The tight constriction of the finger undoubtedly assisted in the production of complete gangrene, but probably the first application would have been sufficient

TREATMENT AND ETIOLOGY OF PNEUMONIA

W J GALBRAITH, A M, M D

CANANEA, SONORA, MEXICO

Including those cases mentioned in my article, published in THE JOURNAL, July 9, 1904, I have had up to date, July 30, thirty seven successive recoveries of uncomplicated cases of pneumonia which were treated according to that article My experience during the season just passed covers over two hundred cases, and careful observations lead me to believe there is a factor preceding the active physical signs of pneumonia which, by careful examination, can be detected in many cases prior to the stage of engorgement

Unfortunately, it is impossible to get a positive history as the anesthetic properties of alcohol are a mask for reliable record However, in those cases that have come under my care at an early date I have frequently been able to detect tenderness, from a mild to a severe degree, in the region of the gall bladder, with a corresponding amount of pain in the same region which may extend to the left and upper lobes of the liver The tenderness and pain are invariably relieved as soon as the physical signs of pneumonia develop Those cases that are preceded by severe gall bladder pain and bilious vomiting, I have invariably noticed, are followed by troublesome tympanites

Just what relation, if any, these preliminary symptoms have to pneumonia I am unable to state at the present time I would not be surprised if time would prove that microbic invasion of the gall bladder may become an etiologic factor in pneumonia If any practical knowledge can be demonstrated from these theoretical views we have accomplished all that theory is entitled to

GONORRHEAL INFLAMMATION OF STERNO-CLAVICULAR ARTICULATION

IN ONE CASE COMPLICATING FRACTURE OF CLAVICLE

R L LARSON, M D

CHICAGO

CASE 1—John S, aged 20, came to me a few weeks ago with the following history

History—Three days previous he fell off a horse's back, striking on his left shoulder, apparently receiving only a slight contusion of the soft parts around the shoulder girdle He paid no attention to it until great soreness and tumefaction ensued

Examination—I found well marked evidences of simple, oblique fracture of the clavicle at its middle point At the junction of the middle and inner thirds there was a hard, bony swelling, which he stated was the result of a fracture about a year ago, for which he was treated at the Alexian Brothers' Hospital There was good union at this point

I noticed a prominent swelling at the sternal articulation of the clavicle, which I did not think was concomitant with the recent fracture The patient stated that he had an uncured urethritis of some three weeks' standing, and that this sternal swelling had appeared some three days previous to the accident It was very painful and he was unable to use his arm to any great extent The recent accident only spurred him on to see a physician

Examination of the urethral discharge distinctly demonstrated the presence of gonococci

Treatment—Along with the surgical treatment of the fracture I administered the necessary treatment for his gonorrheal urethritis With three inch width strips of adhesive plaster I applied a Velpeau bandage, and maintained the upper extremity and clavicle in good position

Results—Within four or five days the sternal swelling disappeared and in twelve days the urethritis vanished, and then there only remained the subsequent treatment of the clavicle At the end of the fourth week the patient wished to return to work as barn hostler and I very reluctantly freed him from his bonds I had contemplated having him tied up for at least six weeks, considering the injury of a year before and his recent complication

Now that five or six weeks have elapsed, I had the opportunity to examine this young man, and I find excellent motion in all the joints concerned

CASE 2—A case of interest in this connection occurred about two years ago

History—A young man, aged 21 years came into the hospital during my service with a prominent swelling of the sterno-clavicular articulation The chief surgeon suggested immediate removal of the sternal end of the clavicle His diagnosis was "rapidly growing osteosarcoma" of the clavicle

Now the boy gave a distinct history of an uncured gonorrheal urethritis for the past two weeks Microscopic examination showed gonococci An *x* ray picture showed slight shadow of circumscribed swelling at sterno clavicular junction The 'tumor" had steadily grown for the past week I argued in favor of gonorrheal synovitis

Treatment—Despite an interne s hopes and suggestions the boy was placed on the operating table next morning and everything made ready for operation When I removed the antiseptic compresses from the region of the neck and chest the swelling was found reduced at least 60 per cent. of its original size on the day previous It originally was larger than a hen's egg, well defined, around and posterior to sterno-clavicular articulation No operation was performed outside of manipulation from the hands of the curious

Suggestions were offered that the use of the *x* rays had occasioned this wonderful change and they were used daily for ten days The patient then left the hospital he and his friends holding the vague idea and opinion of a surgeon s skill in the use of the *x* rays and magnetic touch

63 East Chicago Avenue

A CASE OF TETANUS TREATED BY SUBDURAL AND INTRASPINAL INJECTIONS OF ANTITOXIN DEATH

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Introduction—The interesting phenomena which happened during the progress and treatment of a case of tetanus which occurred recently in my service[1] impels me to place the notes of the case on record I believe the interests of the profession are best served by collating the material from all cases, whether successful or not

History—A male negro, 24 years of age, was admitted to the U S Marine Hospital, Baltimore, at 4 p m, June 16, 1904 He complained of stiffness of the muscles of the lumbar spine, with rigidity of the muscles of the back of the neck He noticed the beginning stiffness eighteen hours previous to admission to hospital, and ascribed his condition to the free drinking of ice water throughout the day

Examination—On admission he had considerable rigidity of the muscles of the lumbar spine and of the back of the neck The neck was arched backward and there was slight opisthotonos The jaw was stiff so that the mouth could not be opened as widely as formerly On inquiry, the patient admitted that while working about a stable he ran a nail into the sole of the right foot just five days prior to the onset of his symptoms He stated that the wound gave him no further trouble.

Later Symptoms—Two hours after admission there was noticed a decided increase of the rigidity of the muscles of the back, with some beginning stiffness of the muscles of the abdomen and flexors of the left thigh The patient was sweating profusely, especially over the upper portion of the chest, neck and face His skin was cool, temperature, 36 6 C, pulse, 55 beats to the minute, full and strong Heart action was tumultuous, no murmurs There was now some difficulty in swallowing, and beginning stiffness of the sternomastoid muscles

Three hours after admission there had developed, in addition to the tonic contractures mentioned above, an intermittent clonic spasm affecting especially the lumbar spinal and abdominal groups of muscles These spasms arched the patient considerably They were not typical of tetanic convulsions, being shorter in duration and occurring with greater frequency The patient had an unnatural wrinkling of the skin of the forehead, due to the involvement of the occipitofrontalis muscle There was no involvement of the risorius muscles The muscles of the chest—that is, the intercostals, the pectoral and serratus magnus muscles—were only slightly rigid, and there was no embarrassment of respiration The urine was normal, and there were involuntary evacuations of the bowels All mental faculties were preserved, and there did not appear to be any hypersensitiveness to outside influences

Treatment and Result—Chloral was pushed in gram doses at half hourly intervals during the six hours following admission It produced drowsiness, but failed to have any effect on the spasms Under chloroform, seventeen hours after admission, the skull was trephined over the parietal eminence, and 20 c c. tetanus antitoxin were slowly injected under the dura The wound was closed without replacement of the button of bone At this time, 5 c.c of cerebrospinal fluid were withdrawn in the ordinary antitoxin syringe by lumbar puncture, followed by the slow introduction of 10 c.c antitoxin into the spinal canal This latter procedure was thought advisable in order to get the more immediate effect on the toxin locked ganglion cells which control the involved spastic abdominal and spinal muscles The wound of entrance was laid open and packed There was no shock incident to the operation, the patient reacted rapidly, and for three hours was free of spasms As the effects of the anesthetic wore away, the convulsive movements returned, the patient dying of asphyxia within five hours after operation

Remarks—The points of interest to be noted in this case are the short period of incubation which was exactly five days, the extreme rapidity of the course of the disease—forty two hours—the marked involvement and apparent selection of the lumbar spinal and abdominal groups of muscles, and the comparative freedom from involvement of the muscles of the limb through which the tetanus organisms and toxin made their entrance The negative evidence deduced from this case would advise, I believe, an early recourse to the use of antitoxin administered subcutaneously or along the sheath of the nerve trunk supplying the injured location as a preventive measure, or subdurally or intraspinally as a curative procedure

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Diphtheria in Healthy Throats—M Geirsvold of Christiania states in *Tidsskrift f d Norske Laegeforen*, No 23, 1903, that he found diphtheria bacilli in the throats of 9 2 per cent of 967 presumably healthy school children examined The investigations were conducted in the schools during the period from May 28 to June 20, and 87 children were found to shelter the bacilli, in pure cultures in 22 In a later series in the fall he found them in 3 4 per cent of 178 children. None exhibited any clinical symptoms He remarked that this proportion is probably below the actual number, and that the children too young to go to school and adults also probably show a similar proportion, consequently strict isolation on the bacteriologic findings is impracticable

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[1] In the service of Surgeon H P Carter

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RESPONSIBILITY AND CRIME

It was left to President Roosevelt, in a recent memorandum, clearly to enunciate a characteristic, common-sense view of the plea of insanity in extenuation of crime. He said:

> I have scant sympathy with the plea of insanity advanced to save a man from the consequences of crime, when, unless the crime had been committed, it would have been impossible to persuade a responsible authority to commit him to an asylum as insane. Among the most dangerous criminals, and especially among those prone to commit this particular kind of offense [rape], there are plenty of a temper so fiendish or so brutal as to be incompatible with any other than a brutish order of intelligence, but these men are nevertheless responsible for their acts, and nothing more tends to encourage crime among such men than the belief that through the plea of insanity or any other method it is possible for them to escape paying the just penalty of their crimes.

With this view we know some of our psychiatric friends will take exception. Much has been said and written that appeals to our sympathy with a view to preventing the insane criminal from suffering the regular penalty of the law. In some specific instances this plea has been urged with such publicity and under such unwarranted circumstances as to have brought much obloquy on scientific psychiatry. It has become a popular by-word that such and such a criminal will "play the insanity dodge" and escape the punishment due him.

In this direction we have gone too far. Sentiment and metaphysics on a substratum of scientific truth have woven a structure of words that has for a time overwhelmed our common sense. The President does us a service in so graphically striking to the root of the matter. To the general physician it seems the time has come to take a less assailable position on this question of responsibility in crime. The following propositions, then, seem to afford a nucleus for such a common-sense view:

> 1. A person under trial for crime, if not sufficiently insane to require isolation in an asylum, should be held legally and fully responsible for all his acts. The plea that he became suddenly insane at the time of committing his criminal act, while scientifically true in many cases, should not be permitted to secure him immunity from punishment.
>
> 2. Either he should be judged exactly as would be a sane and mentally responsible criminal, or else, under laws most urgently needed, he should be committed to an asylum especially equipped for such cases for the remainder of his life, on the ground—well sustained by many tragedies—that it is not possible to predict when he will again be seized by an insanely criminal impulse.

At present it is too easy for "influence" to release from the asylum the criminal who has been adjudged "insane." There is little doubt that the adoption of these propositions would, like magic, reduce the proportion of criminals who plead insanity as an excuse for crime.

As a matter of fact, while supported by the scientific arguments of respected psychiatrists, the "insanity plea" is chiefly used by shrewd but not too scrupulous criminal lawyers to extricate undeserving criminals from well-earned punishment. The alternative of life commitment to an asylum renders certain the escape from punishment of every really insane criminal. The time has come, we believe, for the organized profession to ask legislatures to amend the criminal laws along the line suggested. It is certain that this course will insure to the profession a large share of public approval.

THE PRODUCTION OF ANTITOXIN BY AUTOLYSIS

The discovery of the remarkable property of the animal body to produce antitoxins in response to the injection of toxins has opened up an entirely new field of investigation in physiology. Very extensive experiments have been carried out by a large number of investigators in the hope of discovering the mechanism and the exact location of the production of these antibodies, but very little is as yet definitely known. Several theories have also been advanced to explain this process, but none of them is entirely satisfactory. It has been shown, for instance, that antiabrin and cholera immune bodies are present in the spleen and in the bone marrow of an animal, in the process of immunization, before they can be found in any other part of the body. It has also been shown that an emulsion of brain tissue has antitetanic properties, and substances having antitetanic properties have been isolated from normal spleens and adrenal bodies. These facts seem to speak in favor of the view that antitoxins are produced in a limited number of organs, and perhaps in different organs according to the nature of the toxin injected.

In consideration of the facts that antibodies are, with very few exceptions, specific substances, and that they appear only as a result of the injection of toxins, it has been held by Buchner, Metchnikoff and others that they result from the transformation of toxins by the organ cells. According to this theory, they are not produced from substances that are normally found in the body, but from substances that are injected with the toxin. According to Ehrlich's side-chain theory, on the other hand, antibodies are nothing more than receptors of the normal cells, which are produced in excess and given off to the blood in consequence of repeated injections of small doses of toxins.

Although these two theories are very different from one another they both suppose that the production of antitoxins calls forth an increased activity of the tissue cells Blum[1] has now raised the question whether antibodies could not be produced by an increased breaking down of the tissue cells in consequence of the injection of toxin instead of being the result of an increased and special activity This breaking down of tissues would lead to autolysis of the dead cells, which might give rise to substances having protective properties against the toxin that has been injected In favor of this view he points out that the injection of toxin during the process of immunization is followed by fever, leucocytosis and loss of weight He also carried out a number of experiments in which he showed that tetanus antitoxin is produced by the aseptic autolysis of animal lymph glands *in vitro*

Beef lymph glands were collected under aseptic precautions, chopped fine and mixed with toluol, and then covered with twice their weight of physiologic salt solution and placed in the incubator for one to seven months Half a c c of the liquid of some of these mixtures protected white mice against ten times the minimum fatal dose of tetanus toxin

The antitoxin contained in these fluids is largely retained in a porcelain filter when the fluid is filtered It can be precipitated with ammonium sulphate, and in other respects behaves like the antitoxin in immune serum It can not be said, however, that the antitoxin produced by autolysis of lymph glands is identical with that produced in the animal body by the injection of toxin, but the fact that the two behave very similarly toward various chemicals (ammonium sulphate, acids, alkalies) suggest this possibility

THE PHYSICIAN HIMSELF

The recent wide spread of the cult for Dante and the study of details relating to his life and position in Florence have brought out some facts that can not fail to be of extreme interest to physicians Dante, as is now well known, was a member of the Guild of Physicians and Apothecaries in Florence This does not mean necessarily that the great poet knew anything either of medicine or of pharmacy As has been recently called to renewed attention by Julia Cartwright in her book, "The Painters of Florence," "by the laws of Florence painters and sculptors belonged to the Guild of Physicians and Apothecaries, which was one of the seven major or higher class of trades, and each artist was required to matriculate in this body before he could practice as an independent artist" She adds "This close connection between painting and medicine dates back to very early days, and receives further illustration from the fact that St Luke was the patron of both doctors and artists"

Very few communities have realized the true relationship of art and literature and the well-being and proper educational development of their citizens, as did the Florentines of the times just before and after Dante This placing of the artists and literary men then, in the Guild of Physicians and Apothecaries is something much more than mere chance, or some fortuitous necessity of municipal distribution of civic influence These people of the early Renaissance, at a time when probably artistic ideals were closer to the heart of the generality of the people than has ever been the case since, felt that the physician by his profession should be a leader of those whose influence makes for the uplifting of life Something there was evidently of the idea, too, that his presence and his power of suggestion must be able to raise people above themselves and the physical ills to which they were liable, as the artist and the literary man accomplish similar purposes for those in health

There is surely in this story of the old medieval town and its principal guild, that of the physicians and apothecaries, a lesson that the modern profession may well take to heart, for it serves to show, first how broad must be the interest of the physician in everything that relates to the esthetic side of life if he would not fail of the high aims of the brotherhood, and second, how closely he must feel his fellowship with the artist and the literary man himself, how much he must cultivate the higher things of life and art and letters in order to occupy that position with regard to his patients that is properly his The idea may seem far-fetched to a practical generation, but it is by such an ideal that the physician will secure not only success, which is not the sole aim in life, but also that supreme satisfaction which comes from ever-increasing self-development, and that exercise of faculties which constitutes the only real happiness of life

CO EDUCATION AND RACE SUICIDE.

Co-education in the higher institutions in this country is still on trial, at least if we can judge by the variances of published opinions Of late the utterances against it have been rather more prominent and positive It has been alleged also that the higher education unfits women physically for the duties of motherhood and that, much against their will in many cases, they remain childless or comparatively unfertile, or suffer excessively in fulfilling the functions of reproduction after marriage The question of co-education as a factor in race suicide, so called, which is at present somewhat engrossing the public mind, has been raised Dr G Stanley Hall, whose extensive studies of adolescence, as well as his experience as an educator, render his opinions worthy of serious consideration, claims that the effect of co-education is bad, that it de-feminizes the female and feminizes the male, and generally interferes with the laws of nature so as to reduce the ratio of both marriage and offspring On the other hand, experienced educators like President Angell of Michigan University see only good in co-education or at least a vast preponderance of good over evil

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[1] Hofmeister's Beitrage 1904 v, 142

Leaving aside the purely social aspects of the subject as not capable of being fully discussed here, there still remains several points of medical interest. It is difficult to obtain definite, trustworthy statistics of the frequency or infrequency of marriage and of the fecundity of college-bred women, but one thing may be admitted as probable, that the ratio of marriages is somewhat less among female graduates of the higher institutions than among the female population generally. A woman's chance of marriage rapidly diminishes with age, and the completion of a full college course leaves the female graduate at a period of life with appreciably diminished marriage expectancy. Moreover, married women who wish to devote themselves to the higher studies probably think less of marriage as an object in life than do others and this also may affect the statistics. A rather extensive study of alumni records would be required to afford a basis for conclusions, and we doubt if this has been made. As far as the effects of co-education are concerned moreover, a comparison is needed of the data from exclusively female institutions like Vassar, Bryn Mawr, Wellesley and others with those of co-educational schools, and it is possible that the result might be favorable to the latter. The claim made by President Angell that co-education affords special advantages for the selection of lifemates is also to be considered. In looking over the alumni records from one large co-educational institution and taking into account those graduates only who may reasonably be inferred to have completed the reproductive period, the average number of children was about four, where any data were given. The corresponding study of one exclusively female institution gave a lesser figure. If Dr. Hall's assertion is a statement of a rule, the exceptions are altogether too numerous to prove it.

Still another point needs mentioning. It is quite possible the concentration required by the higher studies may often have a deleterious effect on the proper development of the adolescent female. This is a rather serious matter. Girls are often more ambitious in their studies than boys, and therefore more liable to receive damage from this cause, and it may be that the competition between the sexes in co-educational schools may aggravate this possibility. The subject taken altogether is an important one, and careful research, if it is possible, as to the physical effects of the higher education in women is desirable. Apart, however, from the general effect of the higher education on the female organism the influence of co-education by itself as a factor in producing physical race degeneration is not yet satisfactorily proved.

NEO MALTHUSIANISM IN AUSTRALIA

Neo-Malthusianism seems to be a popular theory in Great Britain's southern dependances of Australia and New Zealand. According to recent statistics, the birthrate has fallen in Australia to a figure far below that known in any other country and one that leaves little margin, if any, for the increase of population. In 1893 the ratio was 19.17 per 1,000, while ten years later, in 1903, it was only 14.90 per 1,000. It is thought certain that the decline is still continuing, and at this rate it will not be so very long before the problem of a diminishing population will have to be met. Australia is not a crowded continent, there is abundant room for a larger population even with the unfavorable climatic conditions that exist over a large part of its territory, but, like New Zealand, which is following in the same path, it is a country of social experiments. Immigration has been practically checked by labor laws, etc., and present conditions do not favor its revival. With lessening population and a public debt, the greatest of that of any community, some $278 per capita, a ratio which is not likely to be decreased according to present appearances, England's southern empire would not appear to be in a very good way. Social experiments evidently come high and the experience of Australia is not encouraging. Population, as Mr. Kidd truly says in his "Social Evolution," is the rock on which all socialistic systems split, but this apparent attempt on so large a scale to meet the problem in Australia and New Zealand is likely to place them at the very top, or perhaps we should say at the bottom, of the list of decadent populations. The star of empire appears to be waning somewhat over England's southern dependencies.

HEMORRHAGE INTO THE ADRENAL GLANDS IN INFANCY

Although little is known concerning the function of the adrenal glands, and scarcely more with regard to disease of these organs, there is reason to believe that they fulfill a not unimportant purpose in the economy, probably through the generation of an internal secretion. Whether this latter is effective directly, through the agency of its vasoconstricting principle, or indirectly, by neutralizing substances circulating in the blood, is not yet known, but that it is in some way profoundly concerned in the body-metabolism is clearly shown by the results of destruction of the adrenals either by disease or by experimental means. The effects of partial lesions of the glands are not obvious, perhaps because even a small residuum is capable of supplying sufficient secretion for the needs of the organism. Hemorrhage into the adrenal glands has not rarely been observed in still-born children, and less commonly in early infancy. In some instances, especially of the first group, it is probably due to mechanical conditions attending parturition, while in others, particularly of the second group, the underlying cause is some infectious process, although this may not always be obvious. In the latter, acute abdominal pain and vomiting set in suddenly in a child previously in apparent health, and the temperature becomes elevated above the normal. A purpuric eruption sometimes appears, and there may be hemorrhages from mucous membranes. Convulsions supervene, and death takes place in the course of a few hours. Three cases of this character, one occurring in a male infant three days old, one in a boy two months old, and the third in a girl seven months old, are placed on record by Mr. Frederick

Langmead,[1] who notes the resemblance of symptoms to those attending acute specific diseases of malignant type.

PORTAL THROMBOSIS WITH HEMORRHAGIC INFARCTION AND NECROSIS OF THE LIVER.

Acute thrombosis of the portal vein is characterized clinically by the occurrence of severe abdominal pain and copious hypostatic hemorrhage from the organs whose vessels unite to form the portal vein. When such acute obstruction is complete, death results rapidly from loss of blood; but if the obstruction is only partial, ascites, enlargement of the spleen and recurrent hemorrhage develop. The condition is usually dependent on disease of the walls of the portal vein, and this may be associated with other morbid states of the liver or in the vicinity of the portal vein. The most important etiologic factor in this connection is syphilis, involving either the liver or the vein itself. Among other causative influences are cicatricial processes in the transverse fissure secondary to chronic peritonitis, compression by tumors, enlarged glands or gallstones, atheroma and sclerosis. Acute thrombosis of the portal vein does not give rise to any considerable alterations in the liver, because the hepatic artery still suffices to maintain the nutrition of that organ. When, however, emboli are carried into the branches of the portal vein, a condition results that has been designated atrophic red infarction. In order that this may occur, there must be interference with the supply of arterial blood to the liver, together with disturbance in the venous circulation of the body. There is another form of infarction of the liver, namely, the anemic-necrotic, which may be attended with true hemorrhage into the liver tissue. It is a condition secondary to thrombosis, and it is dependent on obstruction of the circulation in the hepatic artery. An unusual case of this character has recently been reported by Dr. F. Steinhaus.[2] This was an instance of mixed autochthonous and traumatic portal thrombosis, with secondary alterations in the liver in the form of extensive necroses and true hemorrhagic infarction, developing in a coachman who had been kicked in the right hypochondrium by a horse. The changes in the liver are attributed to complete connective tissue obliteration of the interlobular branches of the portal vein, which was probably the seat of a primary circumscribed endophlebitis, causing extensive alterations in the smaller and smallest branches and necrosis of the liver tissue before the injury, as extensive cirrhotic changes with excessive proliferation of biliary passages seemed to indicate that the entire process had existed for some time. The blow in the right hypochondrium, it is reasoned, gave rise to acute necrosis of the fatty tissue of the pancreas, and fresh thrombosis of the right suprarenal vein, with hemorrhage into and necrosis of the adrenal body, as well as fresh thrombosis of the larger branches of the portal vein. The case must be looked on as an evidence of the etiologic significance of traumatism with relation to acute necrosis of the fatty tissue of the pancreas, as well as to thrombosis of the portal vein.

SURGICAL SCARLATINA.

Since Sir James Paget, in 1864, presented a clinical lecture on the subject of scarlet fever as a sequel of operations, the possibility of such an occurrence has been generally recognized, and frequently discussed, diagnosed and reported. Numerous epidemics in hospitals have been recorded, besides isolated cases, as well as experimental inoculations. It has become evident to all, however, that in the earlier days particularly much confusion has existed between true scarlet fever and scarlatiniform rashes, such as may result from septic infection or from drug intoxications, particularly carbolic acid. Still there are undoubtedly instances of true scarlet fever following shortly after an operation. The possible explanations suggested have been that in surgical scarlet fever we have to do with a wound infection by the unknown virus of scarlet fever, or that the resistance of the body is lowered by the operation so that a latent infection with scarlet fever is enabled to develop, or that the recorded cases are merely the outcome of coincidence, favored perhaps by the great exposure of hospital patients to contagious diseases. It is apparent that the exact status of surgical scarlatina is a matter of great importance from the standpoint of the searcher for the etiology of scarlet fever, for if it can be shown that the infectious agent is such that it is likely to enter an operation wound we would be able to add considerably to our scanty store of information on this subject. The relation of streptococci, which are so important as factors in the mortality of scarlet fever, and so frequently found in the disease that not a few have considered them the specific cause, is raised prominently by the known tendency of streptococcus infections in wounds to lead to not only local but general erythematous eruptions. Indeed, some writers have considered this close analogy of scarlet fever as seen after operations with other better known infections, to indicate that the same infectious agent may in one person cause erysipelas, in another puerperal fever, phlegmon, lymphangitis or scarlet fever. Dr. Alice Hamilton,[1] reporting a series of ten cases of a condition such as is described in the literature as surgical scarlatina, considers the questions: Is this disease really scarlatina, and if so, what is the relation between the injury and the disease? The possibility that ordinary septic infections, erysipelas, etc., can have the same cause as scarlet fever, would seem to be ruled out by the fact that the latter is followed by an immunity, while the former is not; and also, we might add, that immunity to scarlet fever does not protect in any way against ordinary streptococcus infections. Analysis of the 174 cases of surgical scarlatina that have been reported led to the view that in many of the cases what had been reported was really septic infection with eruption, and not scarlatina. This is probably the explanation of the belief that surgical scarlatina differs from the ordinary form in having a shorter incubation, little or no angina, a rather early desquamation, and the onset of the eruption in the wound or some other unusual region. There seems to be no convincing proof that there is a special form of "surgical scarlatina," but rather that the *bona fide* instances of scarlet fever in the wounded have been merely coincidences, and *not* that the wound serves as an infection atrium for the disease

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[1] Lancet, May 28, 1904, p. 1004.

[2] Deutsches Archiv für klin. Medicin, vol. lxxx, Nos. 3-4, p. 364.

[1] American Jour. Med. Sci., July, 1904, p. 111.

THE LYMPH GLAND METASTASES IN CARCINOMA OF THE STOMACH

The question of the situation and appearance of the lymph gland metastases in carcinoma of the stomach is of both medical and surgical import From the medical standpoint it is important to know how frequently and how early we may expect metastases at a distance which might be of aid in the diagnosis of the condition, particularly as certain French observers have laid some stress on enlarged clavicular glands in this connection From the surgical standpoint the matter is of much greater importance, as a knowledge of the lymph-gland distribution of stomach carcinoma is absolutely essential if the surgeon is to know how much tissue is to be removed with the affected portion of the stomach in order that there may be no recurrences

Up to the present the most important work on this subject has been contributed by Cuneo, but this author confined his studies to the glands in the immediate neighborhood of the stomach, and did not study those at a distance Quite recently, Renner[1] has tried to fill the gap in our knowledge in this direction This author attempts to answer several important questions, namely, whether a macroscopic test is sufficient to distinguish a cancerous from a non-cancerous gland, whether there is a definite relation between the seat of the tumor and the group of glands affected, whether the secondary growths are due to direct extension or metastasis, and whether in operative cases, which subsequently come to autopsy, infected glands can still be demonstrated The first query the author answers very decidedly in the negative, he shows that while on the one hand glands which appear to be enlarged contain no carcinoma, on the other very small and apparently non-implicated glands may be full of new growth He therefore advises the removal of all glands in the neighborhood of the operative field As far as a correspondence between the situation of the growth and certain groups of glands is concerned, the author shows that this exists to a certain extent, thus in fifteen cases the glands draining the seat of operation were carcinomatous, while in four cases they were not The evidence of transmission of the growth was practically all in favor of transmission by metastasis, as only in rare cases was there any sign that direct transmission had taken place The study of operative cases at autopsy showed that in fifty per cent of the cases there was no regional glandular recurrence

The general result of the study was to show that the glands of the lesser curvature are those most frequently infected, next the suprapancreatic, and then the subpyloric In the limited number of cases investigated there was no case showing metastases to the clavicular or cervical glands, so that enlargement of these glands is probably of little diagnostic value and occurs so late that operative interference at the time of its discovery would be out of the question

Medical News.

COLORADO

Academy Will Build—The Denver Academy of Medicine will erect a two story and basement building, at a cost of $20,000 to be used exclusively for physicians

Sisters Buy Sanatorium—The Sisters of Mercy of Maniton have purchased the Montcalm Sanatorium in that city and will remodel the building and equip it as a hospital at an expense of about $5,000

July Deaths—During July 769 deaths and 32 stillbirths were reported in the state, equivalent to an annual death rate of 15 65 per 1,000 One death was due to scarlet fever, 6 were caused by diphtheria, and 19 by typhoid fever

Health Appointments—Health Commissioner Dr William H Sharpley, Denver, has appointed Dr J W Jordan, county physician, Dr J William Dillon, assistant county physician Dr William C Mitchell, bacteriologist, and Dr Frank R Coffman, medical inspector

Contagious Diseases—The State Board of Health reports that during July 126 cases of typhoid fever were reported, an increase of 95 over June, 64 cases of diphtheria, an increase of 5, 64 cases of smallpox, an increase of 25, and 52 cases of scarlet fever, an increase of 7

Consumptives Are Being Cured—The Jewish National Hospital Association for Consumptives, of Denver, at its annual meeting reported that up to the beginning of the year 169 patients had been admitted to the hospital, of whom 4 had died, and 151 had been discharged cured, but of course these "cured' patients are obliged to remain in the Rocky Mountain zone

GEORGIA

Physician Loses by Fire—The house of Dr James I Wilson was destroyed by fire, July 11 The loss was $7,000, insurance $5,500

New Hospital Opened—The new King's Daughters' Hospital Atlanta, erected at a cost of $12 000, was formally opened July 18

Lengthened Course Deferred.—The senate acted on the amendment to the medical bill requiring medical students to attend four full terms in full separate years, after considerable discussion The vote stood 16 to 16, and the matter, on motion, was tabled

Personal—Dr and Mrs W Simpson Elkin, Atlanta, have returned from Europe——Dr William D Jennings, Jr, has succeeded Dr Ernest C Morris as city physician of Augusta——Dr Joseph H. Redding, Waycross, was seriously injured in a runaway, August 12

Tuberculosis Bill Passed—Senator Jordan's bill providing for a tuberculosis commission composed of one member from each congressional district and ten members at large, to investigate consumption in the state and make reports on progress at stated intervals, has passed the senate

ILLINOIS

Smallpox at East St Louis—On August 19, Dr Elvin F Baker, Jacksonville, inspector of the State Board of Health, reported that there had been 68 cases of smallpox, with 8 deaths, in East St Louis, during July

Personal.—Dr Ed P Sloan, Danvers, has returned from Europe and located in Bloomington——Dr James W Morgan, Moline, has sold his practice to Dr James M Wood, Kewanee, and will retire from active work——Dr Daniel W Young, Paris, was seriously injured by a fall on an iron picket fence August 8

State Board Establishes Laboratory—The State Board of Health has secured quarters in Springfield for a laboratory, which is being equipped with the chemic and biologic apparatus necessary to the work of the board, with especial reference to water examinations, the prevention of communicable diseases, and the search in the campaign against tuberculosis

Chicago

Granted New Trial—Dr Anna Beatrice Schultz, who was convicted and sentenced to an indeterminate term in the penitentiary for alleged implication in diamond robberies in Pittsburg and Chicago, has been granted a new trial by the Supreme Court and has been released under heavy bond

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[1] Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie vol xiii No 2, 1904

Personal—Dr Alfred C Croftan has been appointed physician in chief to St Mary's Hospital and Dr A J Ochsner, surgeon in chief——Dr Frank Billings has returned from Mackinac——Dr and Mrs Frank L Mueller were seriously injured in a collision between their trap and a Lincoln Avenue car, August 15 Dr Mueller suffered a fracture of the left clavicle and scapula and Mrs Mueller was internally injured——Dr Norman D Curry has returned from Europe

Rauch Park.—The obituary notice of Dr John H Rauch, which appeared in The Journal of March 31 1894 contained the following paragraph The public park system of Chicago, the water supply, the drainage canal of the city and a multitude of public works recommended by him will perpetually remind the coming medical historian that in this age lived a wonderfully energetic and capable sanitarian' The health department now urges that in selecting names for public parks one be chosen for Dr John H Rauch, the father of the park system of Chicago

A Healthful Summer—No such healthful summer appears of record in the history of the city as this of 1904 says the Health Department Bulletin The average August death rate of the last decade was 18 4 per 1,000 of population and the lowest during that period was 14 53 in 1901 For the first twenty days of August the rate was 12 67 and for the week ended August 20 the 437 deaths reported represent an annual rate of only 11 62 These figures show a reduction of 20 per cent from the previous lowest, and of 31 per cent from the previous August average The deaths numbered 437 of which 108 were from intestinal diseases, 59 from consumption 34 from violence, 29 from Bright's disease 26 from cancer and 25 from pneumonia

KENTUCKY

Hospital Opened.—The new Deaconess Hospital, Louisville, was formally dedicated August 4 The building contains 26 rooms, with accommodation for 30 patients

Oil the Mosquitoes.—Dr Fred D Cartwright and the health authorities of Bowling Green have put oil on the various ponds and marshy spots about the city in an endeavor to do away with the mosquito evil

Personal.—Dr W E Gardner Glendale has been appointed second assistant physician at the Central Kentucky Asylum for the Insane, Lakeland——Dr Robert E Brennan, Louisville, sailed for Naples August 10——Dr Hugh R Manning, chief clerk at the Louisville pension agency, has resigned and has accepted the position of chief of clinic of the Hospital College of Medicine.

LOUISIANA

A Third of Million for Tulane—Under the provisions of the will of the late Alexander Hutchinson (referred to in The Journal of May 14) who died in New Orleans, Dec 7, 1902, Tulane University will receive $333,475, to be employed in the upbuilding of its medical department

Personal.—Dr Felix A. Larue, New Orleans, has been reappointed a member of the State Board of Medical Examiners——Dr Louis A Mereaux, New Orleans, has gone to Europe——Dr John N Thomas has been reappointed resident physician of the Mississippi River Quarantine Station

Majority Vote Necessary for Quarantine—At the quarterly meeting of the State Board of Health it was announced that there was no cause for alarm concerning yellow fever in Mexico, and that there was a full understanding with the health officer of Texas A resolution was adopted providing that no quarantine be imposed by the Louisiana State Board of Health unless by a majority vote of its members present at that meeting

Object to Publication of Names and Deeds—The Orleans Parish Medical Society has adopted the following resolutions

Resolved That it is the sense of the Orleans Parish Medical Society that it is inconsistent with the highest ideals of the medical profession for members to permit the appearance in the daily press of articles bearing on their personal attainments or achievements.

Whereas The frequent appearance in the daily press of articles dealing with the professional attainments of members of this society would seem to indicate a growing disregard for medical ethics

Resolved That copies of all articles appearing in the daily press of this city relating to members of this society shall be placed by the secretary in a scrapbook which shall be kept on the president's desk for the inspection of members The book shall be indexed. and any member whose name shall appear therein will have the privilege of attaching thereto a written explanation

MARYLAND

Personal—Dr B Curtis Miller, resident physician of the Western Maryland Hospital, Cumberland, for eight years, has resigned

Typhoid Fever—The last report of the typhoid epidemic at Mt Savage, Allegany County, is 135 cases Physicians say the epidemic is under control At New Creek, near Keyser, there are 32 cases Two deaths have occurred

Baltimore

Suit for Long Service—Dr Adolph G Freedom has brought suit against the estate of John Moan for $7,000 for professional services He alleges attendance from Nov 24, 1900, until death, March 14, 1904, in all not less than 1,700 visits, including 400 dressings of a cancerous foot, and frequent night work

Personal—Dr Page Edmunds has returned from Europe——Dr R. A. Ravenscroft, surveyor of the port of Baltimore, who has been ill with typhoid fever for some weeks at the Maryland General Hospital here, has recovered and returned to his home at Accident——Dr Alexander D Maconachie left, August 25, for a trip to California and Yellowstone Park, stopping at the principal cities of the West

MISSISSIPPI

Infirmary Burned.—The South Mississippi Infirmary at Hattiesburg was destroyed by fire, recently All the patients were removed without casualty The loss was $10,000, with an insurance of $5,250

Must Not Spit in Public Places.—Secretary John F Hunter of the State Board of Health has promulgated an order of the board forbidding expectoration in any public place or building or in any public conveyance

State Association Election—The Mississippi Medical Association has elected the following officers Dr Thomas J Mitchell, Jackson, president, Drs W C Spencer, Verona, Henry Christmas, Tchula, and Charles M Murry, Ripley, vice presidents, Dr J J Haralson, Forest, secretary, and Dr John F Hunter, Jackson, treasurer

NEW JERSEY

Vital Statistics of 1903—The yearly report of the State Board of Health records 31,319 deaths and 37,639 births during the year Consumption is accredited with 3,019 deaths, and pneumonia with 2,421

Gloucester Health Board Legal.—The city solicitor of Gloucester has declared that the present board of health is legally constituted The right of certain members to serve who were not members of the city council was questioned, as this was a requirement of an ancient ordinance An act was provided in 1896 whereby any citizen appointed by the council could serve as a health officer

NEW YORK

Memorial Hospital Open—The Memorial Hospital, Canandaigua, was opened for public inspection August 18 It will soon be ready to receive patients

Sixty Years a Practitioner—Dr William R Wells, Mount Morris, who was graduated from Castleton (Vt) Medical College in 1844, celebrated his 85th birthday August 16

Typhoid in Port Chester—A large number of cases of typhoid fever have developed in this town and its vicinity The state and local health boards believe the epidemic to be due to either impure milk, ice from ponds containing impurities or the contamination of the water supply by Italians living on the outskirts of the town The health officer of the town has ordered the discontinuance of natural ice There have been about fifteen cases so far this month, twice as many as developed last month

New York City

Contagious Diseases.—For the week ending August 13, 1904, there have been reported to the sanitary bureau 328 cases of tuberculosis, with 153 deaths 211 cases of diphtheria and croup, with 23 deaths, 95 cases of measles, with 8 deaths, 86 cases of typhoid fever, with 18 deaths, 50 cases of scarlet fever with 2 deaths 9 cases of varicella 1 death from smallpox, and 24 deaths from cerebrospinal meningitis

Personal.—Dr John Van der Poel sailed on the *Campania* for Queenstown August 20——Dr Menas S Gregory has been appointed acting superintendent of Bellevue and Allied Hos pitals during the vacation of the superintendent, Michael J Rickard——Dr William R Pryor is at St Vincent's Hospital in a precarious condition——Dr Russell Bellamy was seriously injured by being thrown from his pony during a game of polo at Van Cortlandt Park

High Death Rate Among Infants.—Because of the unusual high mortality among babies the health department is taking active measures to lower it by sending circulars of instruction on the proper care and feeding of babies, when asked for physicians and nurses are sent to further instruct and aid the mothers in caring for their children Where there exists several cases of diarrhea in the same family the board of health requests that it be notified in order that they may determine the cause and act accordingly

Device for Street-Car Ventilation—Dr Walker, of the health department of Brooklyn, has devised a simple method for ventilating street cars without causing a draft He had two openings made in the deck sash of a car about ten inches apart, into which were fitted slats to deflect the intake of air to the roof of the car Between these openings a shingle was extended from the side of the car so the wind would strike against it when the car was in motion The principle on which he proceeded was that air would strike the front of the shingle and be deflected into the car, while dust, cinders, etc, would fall to the ground Simultaneously the forward motion would create a vacuum in the rear, which would suck out the vitiated air of the car through the rear slats The cold, fresh air introduced would sink toward the floor and the heated the vitiated air would rise and pass out He had rags and refuse burned in the car until the atmosphere was rendered absolutely unbearable The car was then set in motion at a speed of fifteen to eighteen miles an hour, and within two minutes and a half the air within was fresh and pure

PENNSYLVANIA

Typhoid at West Chester—Several cases of typhoid have appeared in West Chester Dr James C Mewhinney, Spring City, county medical inspector, concludes that the outbreak was sporadic

New Bill to Protect Health—The State Board of Medical Examiners will secure the introduction into the next legislature of a bill giving the board power to recall and cancel any license issued by it whenever it appears that the holder is not a fit individual by lack of proper education moral character, or for the practice of illegal work

Smallpox Throughout the State—Statistics of the State Board of Health show that the total number of cases in the state during July was 94, with 2 deaths Up to August 13 19 cases and one death had been reported In June there were 60 cases and 9 deaths, and in the previous month 274 cases and 21 deaths There were 550 cases and 33 deaths from the disease in May of last year, 506 cases and 33 deaths in June, 359 cases and 63 deaths in July, and 448 cases and 62 deaths in August——Four cases of smallpox, all in one family, were reported in Pottstown August 16 The board of health immediately quarantined the home

Still Fighting Smallpox—Dr Benjamin Lee, secretary of the State Board of Health, in view of the sporadic cases of smallpox throughout the state and to prevent the outbreak of another epidemic with the advent of cold weather has distributed the following circular notice to every school board throughout the state

> You are authorized to address a communication to the parent or guardian of every child of school age in your district to the effect that no child will be permitted to enter school who can not present a certificate of successful vaccination signed by a reputable physician The penalty for failure neglect or refusal to comply with the law is a fine of not less than $5 or more than $100, or imprisonment for a period not exceeding 60 days

Dr Lee asserts that had the law in respect to vaccination been obeyed five years ago, the record of 20,286 cases and 1,585 deaths from the disease since that time would have been almost entirely prevented

Philadelphia

Talks on Consumption—Dr Augustus A Eshner delivered the tenth of a series of plain talks on health arranged by the director of public health, Dr Martin, August 18 The final lecture of the series will be delivered by Dr Edith W Cadwallader, August 25, on the "Connection Between Dirt and Disease"

Pure Food Crusade and Soda Fountains—The pure food commissioners have directed their attention to the dispensers of impure fruit syrups in soda water The so called fruit syrups were analyzed and found to be substitutes Many of them, Chemist Lowall stated, contained materials injurious to health Twenty dealers who conduct these fountains in the southern section of the city, were arrested and held in $500 bail for court

Health Report—The general health of the city continues good and the mortality is below the seasonable average Typhoid fever, however, continues its high standard, 109 cases, with 11 deaths being recorded for the week, as compared with 100 cases and 11 deaths for the previous week The deaths from all causes reached a total of 420, a decrease of 21 over last week and a decrease of 2 over the corresponding period of last year The total number of cases of contagious diseases reported was 181, with 21 deaths, as compared with 194 cases and 16 deaths for the preceding week

SOUTH CAROLINA

Medical Scholarships—The governor has appointed seven young men to scholarships in the Medical College of the State of South Carolina, one from each congressional district

UTAH

Has Appendicitis—Dr Arthur J Holmquist, resident physician at Helper, has been taken to St Mark's Hospital, Salt Lake, suffering from appendicitis

State Society—At the annual meeting of the Utah State Medical Society, the following officers were elected Dr Philo E Jones, Salt Lake, president, Drs Robert S Joyce, Ogden, and John F Critchlow, Salt Lake vice presidents, Dr Walter S Ellerbeck, Salt Lake, secretary, and Dr James N Harrison, Salt Lake, treasurer

Communicable Diseases—The State Board of Health, in its monthly report for May, records 49 cases of scarlet fever in 11 localities, with 3 deaths, 105 cases of smallpox in 13 localities, with no deaths, 24 cases of diphtheria in 8 localities, with 5 deaths, 215 cases of whooping cough in 27 localities, with 21 deaths, 26 cases of measles in 8 localities, with no deaths, 345 cases of pneumonia in 17 localities, with 23 deaths 17 cases of tuberculosis in 6 localities, and 16 deaths and 4 cases of chicken pox in 2 localities, with no deaths

WEST VIRGINIA

Hospital Opens—The Grafton City Hospital, founded by Dr Rawley H Powell, was formally opened August 7

Smallpox—Amos has had 25 cases, with no deaths——One case is reported at Pasco, and precautions have been taken to prevent the spread of the disease

Personal—Dr Samuel L Jepson, Wheeling, has been elected a trustee of Washington and Jefferson College——Dr Edward F Wehner has resigned as superintendent of the Harrison County Hospital, Clarksburg, and has been succeeded by Dr J Wilson of Baltimore

Buys Historic Homestead—Dr M H Crawford, ex surgeon U S Navy, lately resigned, has purchased the famous Falling Spring Farm near Shepherdstown, the old Morgan homestead, where Gen Daniel Morgan encamped before marching his company to the relief of Boston It has been in the Morgan family over 100 years

GENERAL

The American Confederation of Reciprocating Examining and Licensing Medical Boards will meet at the Hamilton Hotel, St Louis, October 25

The American Association of Life Insurance Examining Surgeons will hold its next annual meeting at Portland, Ore July 10, 1905 The membership is now said to number 1,000

Meetings at St Louis—The American Electrotherapeutic Association will be in annual session at the Inside Inn, World's Fair St Louis, September 13 16, and the International Electrical Congress will convene at the Coliseum, September 12 17 The American Obstetrical and Gynecological Association will meet at the Monticello Hotel, September 12 15, and the fifth annual meeting of the American Roentgen Ray Society at the Louisiana Building, 911 North Vendeventer Avenue, September 9 13

Marine-Hospital Service Examination—The next examination of candidates for assistant surgeonships in this service will be held at the Bureau, 3 B Street, S E, Washington, D C Oct 3, 1904, at 10 a m Candidates must be between 22 and

30 years of age, graduates of reputable medical colleges, and must furnish testimonials from responsible persons as to their professional and moral character The examinations are 1, physical, 2, oral, 3, written, 4 clinical On appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals as at Boston, New York, New Orleans, Chicago, or San Francisco Assistant surgeons receive $1,600 The tenure of office is permanent Other particulars have been given in The Journal previously For further information, or for invitation to appear before the board of examiners, address the Surgeon General at the above address

CANADA

Infant Mortality in Ontario—Last year the deaths from infantile diarrhea and cholera infantum in the province of Ontario numbered 790 in all, a little over 2 per cent of the total mortality of the province From all causes there are about 6,000 infants who die in Ontario each year Dr Hodgetts, the provincial health officer, has prepared a set of rules to govern mothers in taking care of their offspring during the summer months

New Brunswick Medical Society—The twenty fourth annual meeting of this society was held at St John, July 19 and 20, Dr J Douglas Lawson presiding Drs G M Woodcock and Daniel McCann Bangor, and Augustin S Thayer, Portland attended as official representatives of the Maine Medical Association The following were the officers elected President Dr A R Myers, Moncton, vice presidents Dr I T Gaudet St Joseph and Dr G N Pearson Sussex secretary Dr I R Murray, Sussex treasurer Dr G C Melvin, St John The next annual meeting will be held in St John

FOREIGN

Cleansing of Cups and Glasses in Restaurants—The medical chamber of the Breslau district recommends that all the dishes be numbered, and be sterilized by heating for one minute to 50 C (122 F) in a 2 per cent soda solution

Tribute to Huchard.—The fourth and last volume of Huchard's great work on "Heart Disease," has just been published, and he has recently been made an officer in the French Legion of Honor His friends seized the occasion to present him with a portrait medal, it bears the device he long ago adopted, "In corde spes vis et vita" After publishing a number of works on neuropathology, his attention has been directed principally to cardiac affections, on which subject he has published many monographs He is now 60 years old and founded both the *Revue clinique et thérapeutique* and the *Journal des Praticiens* He has long been connected with the Necker Hospital

The International Congress of Dermatology in September—A scientific exhibit and also an exhibition of drugs and instruments, is being arranged for this congress which, as already announced, meets at Berlin September 12 to 17 Communications have been promised on "Syphilitic Affections of the Circulatory Apparatus" by von Düring, von Hansemann, Jullien, Lang, Renvers and Thomson Walker, on "Cutaneous Affections in Case of Anomalies in the Metabolism," by L. Duncan Bulkley, Radcliffe Crocker, Jadassohn, von Noorden and Pick, on "Epitheliomata," by Darier, Fordyce, Landgrer, Mibelli, Riehl, Rona and Unna The general review of leprosy will be presented by Neisser Special pains are being devoted to assembling a large number of interesting cases for inspection before the sessions Dr O Rosenthal of Berlin is the secretary general

Seventy-fifth Anniversary of the Brazilian Academy of Medicine—The Academia Nacional de Medicine enters on the seventy sixth year of its existence in a new and commodious building erected by the government at Rio for the meetings of scientific societies and preservation of their collections and archives Its diamond jubilee was celebrated June 30, with much ceremony, and a number of invited guests, including the minister of the interior and other representatives of the government, with ladies, added to the brilliancy of the festival The themes for the prize competitions for 1905 were announced They include fevers endemic in Rio, malaria, surgical treatment of aneurisms, of appendicitis, etiologic rôle of alimentation in Rio, organization of hospital services, indications and contraindications for surgical intervention in obstetrics, parallel study of abdominal and vaginal routes for gynecologic operations, etc The prizes are a gold medal or diploma. Besides these the Alvarenga money prize was declared open to competition by any unpublished work on any subject connected with some branch of medical science Before the festival meeting adjourned a portrait bust of a former president, the late Dr Silva Araujo, was unveiled

Radium and Longevity—We have read with interest the experiments which demonstrated that the larvæ of the meal worm, etc., exposed to the action of the radium rays, were stunted in their growth and remained undeveloped This fact is interesting from another point of view, as Curie has recently pointed out Danysz exposed a number of the larvæ of meal worms to the action of radium last year At the end of a few weeks most of the larvæ had been killed by the rays, but a few had escaped by retreating to the farther end of the vessel, and they are still alive but they are still larvæ The control larvæ passed through their various phases of larval and winged growth, and died of old age, and generations of their descendants have been born and died, but the radium larvæ still persist in their larval stage Only one of the radium larvæ is alive at date of writing, a venerable patriarch, who has survived three times the normal span of the existence of his kind Curie remarks "Imagine a young man of 21 living to be three times the normal period of human existence, retaining at the age of 210 years his youthful appearance at 21! Yet this is what has been observed in the Methuselah meal worm in Danysz' experiment under the influence of the radium rays"

Treatment of Yellow Fever with Antivenin—Bettencourt Rodrigues of S Paulo, Brazil, has been treating a number of cases of yellow fever with polyvalent anti ophidic serum (anti bothropic and anti crotalic serums), and believes that they displayed marked therapeutic value His communication was received with consternation and incredulity in the local medical association, the physicians there generally denying the truth of his three premises, namely, that there is a close relationship between the venoms and microbian toxins, 2, that there is a close analogy between the symptoms of snake bite and those of yellow fever, and, finally, the resemblance and almost absolute identity of the pathologic anatomic findings in the intoxication of yellow fever and in snake bite poisoning The *Revista Medica de S Paulo* of July 15 contains his long array of well sustained arguments to support these premises, and also the counter arguments of his opponents The latter insist that the recovery of all of the 24 patients treated was due to the exceptional mildness of the epidemic in question, as shown by the recovery of large numbers without any treatment also by the fact that the anti ophidic serum in other epidemics in other hands did not give such good results The discussion is an interesting contribution to the literature of the new science, "serology"

LONDON LETTER

New Buildings of St Bartholomew's Hospital.

The foundation stone of the new building of St Bartholomew's Hospital has been laid by the king The hospital now contains 740 beds During the last fifty years more than 7,000,000 persons have been treated About 500 students work within its walls The rapid advance of medical science in recent years has compelled the governors to contemplate the entire rebuilding of the hospital as funds become available So valuable have been the endowments of the hospital that the governors have not found it necessary for 150 years to appeal to the public for funds The most pressing necessity is the construction of a new out patient department at a cost of $500,000

The Profession Asks the Teaching of Hygiene

A large and influential deputation, composed mainly of physicians, waited on Lord Londonderry, president of the Board of Education, to urge the importance of teaching hygiene in elementary schools The deputation was organized in support of a petition prepared by a committee of physicians and signed by 14,718 of them It urged the government to include in the curricula of the public elementary schools and to encourage in the secondary schools such teaching as may lead children to appreciate healthful bodily conditions as regards cleanliness, pure air, food and drink At present such teaching is only optional. Among the deputation were Sir W Broadbent, Sir T Barlow, Sir V Horsley, Sir M Foster, Prof Sims Woodhead, and Dr D Griffiths, president of the British Medical Association Lord Londonderry made a sympathetic reply, but pointed out that there were great difficulties in the way of carrying out the proposals, the principal being the fact that a body of teachers capable of giving the needed instruction does not exist

Fried Fish as a Cause of Typhoid Fever

In a report to the London County Council Mr S F Murphy, the health officer, describes an outbreak of typhoid fever due to fish Since 1899 at least four outbreaks in London have been attributed with much probability to the eating of fried fish In the provinces two outbreaks have been ascribed to this cause Two special features were found in the London outbreaks—multiple attacks in particular houses and an exceptional age incidence, persons between 3 and 25 being attacked in unusual proportion These features occurred in association with two facts—poverty and the eating of fried fish In December, 1903, a group of attacks occurred in the borough of Holborn, which were believed to be due to the eating of fried fish obtained in two particular shops Every other source of infection was excluded In several instances the subjects stated that the fish had a disagreeable odor, and even that it made them sick The cause of contamination of the fish appears to have been imperfect removal of the entrails, which is liable to occur in cheap fish

Opticians and Spectacle Prescribing

A burning question in medical politics just now is the proposal of the 'Company of Spectacle Makers," one of the ancient guilds of the City of London, to grant diplomas in sight testing to opticians This proposal was severely condemned at the recent meeting of the British Medical Association, and the Ophthalmological Society of the United Kingdom has now done likewise, and passed a resolution that "While approving of any measures which tend to increase the efficiency of opticians in their technical work it considers that it would be misleading and dangerous to the public to countenance any proposal to certify as competent to advise and prescribe for defects of vision anyone who has not had an efficient medical and surgical training A diploma such as the Company of Spectacle Makers proposes to grant may lead the public to believe that its possessor is competent to diagnose and treat diseases of the eye Errors of refraction often occur in association with diseases of the eye The mere correction of the former by means of spectacles would ignore a condition which might destroy sight or endanger life Moreover, many errors of refraction can be accurately measured only after the use of a drug which should be used only by a medical man, since its indiscriminate use is calculated to excite one of the gravest diseases to which the eye is liable Finally on general grounds, it is dangerous to encourage the public in the belief that affections of any organ can be safely treated by any one unacquainted with its anatomy and physiology and with the various morbid conditions to which it is liable"

Correspondence.

Club Practice in New Zealand

WHANGARIE, NEW ZEALAND, July 7, 1904

To the Editor —In a recent issue of THE JOURNAL I noticed remarks on club practice Permit me, as one who has passed through the experience, to express myself I am now in a country in which there are many of these friendly societies They are in some respects a very good thing for the working man, and can even provide for an old age pension

In Auckland there are about 3,000 lodge members, many of these are married and have children, every child under the age of 18 comes on the physician's list Take, for example a man 31 years of age who joins the Manchester Unity of Odd Fellows, he pays £3 10s ($17 50) per year, this covers all fees, 6 shillings ($1 50) goes to the chemist 14 shillings ($3 50) goes to the doctor The first fee of £3 10s ($17 50) also acts somewhat as an insurance to the member If he is unable to follow his usual occupation then he receives £1 ($5) per week If it is an accident, then he receives also from the employers' accident insurance, half his usual wages

All the Auckland lodges united, and now have their own dispensary They called for two medical officers, each to receive £500 ($2,500) per year, and to divide the work, confinements, £2 2s ($10 50) and all venereals extra But with the contract I was asked to sign, and the work taking one's time early and late I found a medical man was doing an injustice to himself to his patients and to the medical profession The medical officer had but little time he could spend on each patient Some days my consultations and visits in a radius of 3½ miles would total such a number that they would average each as low as 9 pence (18 cents) I resigned, and the place was filled by a Chicago man

There is another system of club practice which is very commendable In one mining district the miners have a fund formed by deducting a weekly 9 pence (18 cents) from the wage Then, in each case where a medical man is required, he is called and paid from the fund, it is unnecessary for me to say the medico is only called when he is really required—not, as in the other form of club work, called for anything and everything

There has been some effort among the members of the medical profession to combat the growth of lodge work, for example, to limit the membership to those receiving an income less than £200 ($1,000) per year This was unsuccessful I found that I was attending as a lodge member one of the members of the upper house of parliament, and many others with good incomes

The consultation fees in general practice are 5 shillings ($1 25) in the country, 7s 6d ($1 87½) in the city, £1 1s ($5 25) in case of consultants P M KELLER, M D

Perforation in Typhoid

OWATONNA, MINN, Aug 9, 1904

To the Editor —The matter of perforation in typhoid cases has been discussed very extensively of late, both in society meetings, and in the medical journals In your editorial of August 6 you have also referred to the symptoms As the question of operation hinges on the diagnosis, of course for the time being that becomes the most important feature. There is one symptom that I have noticed to be invariably present, both in perforation from typhoid and from gastric ulcer, that I have never heard spoken of During an experience extending over something over 33 years I have seen perhaps some six or eight of these cases, but have never seen a case in which the pulse was not greatly accelerated—running from 160 up to such a rate that it was not susceptible of being counted Another feature is that one may pour all of the stimulants and heart tonics into the patient that one pleases, and they produce no more effect than so much water In most cases that I have seen the respiration has also been accelerated, but not in proportion to the pulse The respiration is also superficial in character I have also noticed quite a sudden drop in temperature THEO L HATCH

Diagnosis of Scarlatina.

PHILADELPHIA, Aug 8, 1904

To the Editor —I was very much interested in your issue of August 6, page 397, *in re* Schamberg's differential diagnosis between scarlet fever and 'scarlatiniform erythema," of which teachers and text books in my student days said nothing Several years ago I was called to see a young lady, about 17 years old, with sore throat, temperature about 100, a somewhat rapid pulse, muscular soreness and a universal red eruption, which I declared to be scarlatinous The mother and daughter both laughed and the former said "Doctor, she has had this several times before, and Dr ——— and Dr ——— have pronounced it each time to be scarlet fever" There was later on some desquamation My patient and I agreed to disagree, though she followed my directions as to treatment, and she recovered, but forgot to pay the bill E W HOLMES

A Request to State Examining Boards—University of Michigan Has Two Departments of Medicine

ANN ARBOR, MICH, Aug 18, 1904

To the Editor —Please permit me through your columns to request the state medical examining boards to distinguish in their reports of examinations between the Department of Medicine and Surgery of the University of Michigan and the Homeopathic Medical College of the University of Michigan These are two distinct schools, with different requirements for admission and with essential differences in the courses offered

VICTOR C VAUGHAN

Queries and Minor Notes.

Anonymous Communications will not be noticed Queries for this column must be accompanied by the writer s name and address, but the request of the writer not to publish his name will be faithfully observed

ALBUMIN ESTIMATION METHODS AND ERRORS IN PERCENTAGES

Dr I I Schmauss Mankato Minn writes I have frequently been surprised in reading reports of cases of Bright s disease at the amounts of albumin given ranging from a trace to 30 40 50 or even 70 per cent Even a casual glance will show that this is a mistake that there is something radically wrong This becomes more apparent when we consider that the white of egg (almost a semi solid) contains only 22 per cent of solids 95 per cent of which or 20 5 per cent. of the total is albumin Blood and milk comparatively thick fluids contain only from about 25 to 12 per cent of solids respectively Even cream shows only about 34 per cent Again blood with a specific gravity of 1055 to 1060 has less than 25 per cent of solids milk with a specific gravity of about 1030 shows only about 22 per cent and saccharin urine with a specific gravity of 1030 to 1060 generally yields only 3 to 6 per cent practically never over 10 per cent of sugar Now then when we consider these facts can a nephritic urine a thin watery fluid with a specific gravity ranging from 1010 to 1030 (most of this due to the ordinary urinary constituents—urea uric acid etc) show or contain 30 or 40 or 50 or 70 per cent of albumin I can not understand how such result can be reached and be continually reported by many different authors Because of the latter fact it can not be due to a typographic error Dr G M Edebohls in The Cure of Chronic Bright s Disease by Operation *Medical Record* Dec 21 1901 says in one place The amount of albumin in the urine is at present 40 to 50 per cent as against 50 to 70 per cent prior to the operation Dr A H Ferguson page 12 The Jour A M A July 4 1903 says Urine albuminous 30 per cent eighteen days after operation only about 0 5 per cent The same author in an article in The Journal April 16 1904 gives the percentage of albumin present in the urine of two of the cases as 36 and 35 per cent respectively These same proportions are given in a similar article describing the same cases in the *Medical Standard* of August 1904 These are only a few prominent instances of the many which I have observed June 6 1904 I wrote to Dr —— as follows Dear Doctor Having myself operated a case of chronic Bright s disease I always read with interest the reports of such cases In going over your valuable article I noticed the percentage of albumin given as 36 and 35 per cent respectively I have seen such percentages and even up to 50 or 70 per cent (an impossibility of course) given on other occasions Now either these various writers have made a mistake wrote 30 or 50 or 70 per cent instead of 0 30 0 50 or 0 70 per cent or the printers committed such an error or I am in error and so is Simon s Chemistry Von Jaksch Esbach etc. Simon s Chemistry for instance says The average amounts of albumin present in acute cases of albuminuria is 0 1 to 0 5 per cent. rarely over 1 per cent though it may rise to 4 per cent. This corresponds with my findings While interne at Cook County Hospital Chicago I examined many specimens of urine containing albumin In none did I ever find so much present as in the case I have operated on This urine when boiled would become almost solid on addition of nitric acid coagulation would occur to the top of the urine But 1 5 per cent was the highest I obtained—according to Esbach s method the one most commonly employed. As I understand it the figures 1 to 7 on this instrument do not mean 10 to 70 per cent. but 0 1 to 0 7 per cent or from 1 to 7 per 1000 which is the same Now Doctor this is a very important matter from a scientific standpoint and I would be very much obliged to you if you would kindly write me a few lines to help clear this up or stating by what method you estimate the percentage of albumin I regret that I did not receive a reply from Dr —— hence I have to look elsewhere for this information which I am sure will also interest other readers of The Journal

Answer.—Your criticism of the percentages of albumin given by various writers is both just and timely There is no standard in general use and in consequence there is great difficulty in interpreting the statements of medical writers The estimation of dry albumin is not possible for any one except a chemist, and in consequence various means of proximate estimation have been devised. Probably the usual percentage is based on a rough estimate of the amount of precipitate as compared with supernatant liquid in a newly precipitated mixture—say after standing a minute Figures based on this method have the same value as such statements as large amounts considerable etc. In our opinion the next most frequent method of estimation is by the centrifuge The usual reading is given as percentage whereas it should be volume percentage Purdy demonstrated that this is fairly accurate if the machine had arms 6¾ inches long and was swung for three minutes at the rate of 1,500 revolutions per minute Furthermore if the volume percentage be divided by 10 it would give the grains of dry albumin per fluid ounce For example 10 per cent volume percentage equals 1 grain of dry albumin to each ounce of urine A large number of the percentages published are based on estimation with the Esbach albuminometer Your criticism of a frequent erroneous reading of this instrument is timely The figures 1 to 7 are intended to show grams per liter A urine which precipitated to 7 should be read as 7 grams to 1000 c c or 0 7 of 1 per cent A much more accurate method and one not much more difficult, is Brandberg s modification of Robert s method The principle of this test is a determination of the weakest dilution of the urine which will give a Heller s reaction in 3 minutes We would suggest to writers that they qualify their statements of percentages by specifying the method used

THE RIGHTFUL PRECEDENCE OF THE FAMILY PHYSICIAN

I of Illinois writes I wish to submit a question in regard to medical ethics A child was bitten by a dog and brought to my office but I was temporarily absent and the child was taken to a drug store and another physician summoned who came and dressed the injuries I have been the family physician since the family came here and that evening the mother saw me related the story of the case and told me of the treatment which I approved and she said she wished I could see the wounds and asked if I would go over to the other physician s office with her the next morning and then as she passed my office. she called and asked me to go with her that I might see the extent of the wound and judge of its appearance and danger Now it was not a question of treatment or anything except that I might see the wound. Was there anything unethical in my going over with her? The attending physician took it as a serious offense refused to further touch the case and acted terribly insulted His conduct was not to be excused even if I were in the wrong but I want your opinion as to the ethical right or wrong of my going to his office under the circumstances.

Answer.—As before noted in this column we can not undertake to act as arbiter of the disputes of physicians In order to render judgment in an individual case both sides must be heard—circumstances often change shape when viewed from another point or through other eyes Assuming then that our correspondent states a somewhat hypothetical case there is but one answer as to the proper course to be pursued Our correspondent had a perfect right to see the case and the other physician had no justification in professional custom to become offended at the presence of the family physician In fact, among medical men who find pleasure in the niceties of conduct one who in an emergency is called to a case in the absence of the family physician always retires from attendance on the case when the family physician returns Judged by such a standard the physician of whom our correspondent complains erred twice First in keeping the case after the family physician was at hand and second in finding any fault with the mother s request that the family physician be present at the dressing of the wound

USE OF THE HOLLOW RING PESSARY

W asks for a few pointers on the use of the hollow ring pessary He says it is a pessary filled with air looking for all the world like an old fashioned doughnut and wishes to know its name mode of application how long can it be left in etc

Answer —There is a hollow rubber ring pessary already inflated with air (Meyers) a hollow rubber ring pessary to be inflated by means of a tube (no name) and a solid soft rubber ring pessary (Meyers) They are sometimes useful in a prolapse of the uterus that is not held in position by a hard rubber pessary although the latter is to be preferred when servicable on account of greater cleanliness The soft rubber pessary is put in place by first narrowing it by pressure between the thumb and forefinger carrying it into the vagina and up to the vault, then by bimanual manipulation seeing that the uterus is in place and the rubber ring encircling the cervix. Daily douches should be recommended while the pessary is worn, and it should be removed and cleansed at least once a week as it has a great tendency to become foul

MEMBRANOUS DYSMENORRHEA.

D B C of California writes I have a case of membranous dysmenorrhea in a young married woman, aged 22 She has suffered from this since she first menstruated at 14 or 15 years of age. At times the membrane is complete, while at other times it comes away in strips Her suffering at these times is very severe Her health between her menstrual periods seems normal On examination the pelvic organs appear normal in size and position and as far as I am able to ascertain free from inflammation She is however of a nervous temperament Will you kindly give me in The Journal the cause prognosis and treatment of this disease? I have used acetanilid, gelsemium morphin etc. but with only partial relief Would pregnancy be likely to relieve this most painful condition?

Answer —Membranous dysmenorrhea is thought by some to be a result of endometritis, by some, a monthly abortion, and by some, a monthly casting off of membrane is thought to be normal and an event which gives trouble only when inflammation is present or when an abnormally large piece is passed It should be mentioned that some think that neither of these conditions account for all the cases The prognosis is not good as to a ready cure Pregnancy might help the case but these cases have little tendency to become pregnant and if they do become pregnant, abortion is apt to follow Probably the most reliable treatment would consist of curettage and correction of anteflexion, if present In some cases a second curettage has had to be done a few months later The beneficial effect of diet out of door life, baths, douches, etc should not be overlooked

A GENERAL UTILITY DOCTOR

'Speaking of letter heads, writes a correspondent, I send you one to publish in your Queries and Minor Notes columns that shows that we have one physician here who covers the whole field The letter head has in the left upper corner

Local Surgeon ——— ——— R R Co
Local Adjuster ——— ——— Accl Insurance Co
Medical Examiner —— — ——— Insurance Co
Medical Examiner ——— ——— Insurance Co'

On the right upper corner

President ——— Telephone Co
Cap Stock $10 000 ———, Ill
President ——— Irrigation Co
Cap Stock $200 000 ——— Texas
President ——— Chemical Co
Capital Stock $25 000 ——— Ill
Director ——— Crude Oil and Gas Co
Capital Stock $1,000 000 ——— Ariz

A page advertisement in a local literary magazine informs us that the same physician is Oculist Physician and Surgeon" That 'All Diseases of the Eye Treated and glasses fitted by the most approved method that he gives Special attention to all static electrical and x ray work The doctor is said to be a member of his county state and national societies

ADRENALIN IN HYDROCELE

Dr B F Bennett Trenton Tenn writes I noticed in The Journal June 4, 1904 page 1496 an editorial on injections of adrenalin in serous cavities I have a case of hydrocele I want to try it on if you will kindly tell me if I should use the 1 1000 without dilution and the amount to use

Answer —We hesitate to advise the use of this powerful drug in the case mentioned Several cases of anemic necrosis have occurred in its use elsewhere, but no data are to be had as to its employment in hydrocele If every other surrounding circumstance is favorable, and if our correspondent is still of a mind to try the measure 10 to 20 minims of a 1 to 5000 solution may be cautiously injected and the results noted before any repetition The preliminary withdrawal of the fluid in the hydrocele should not be complete, a small portion being left to mingle with the injection

GO TO THE WORLD'S FAIR

Dr W W Keen, Philadelphia, writes from Colorado Springs concerning the educational exhibit at St Louis as follows No such exhibit of educational methods and means of instruction in medicine (especially by Germany) has ever been made It impressed me greatly and especially should stimulate all our medical schools and teachers to imitation and to surpass what they have done if possible If you have not already done it I hope you will urge your readers and especially all teachers of medicine to visit the Fair, especially the education building and particularly the German and the Japanese exhibits Next to Germany Japan has done the most What she is doing in war she is doing in medicine.

Answer —A continued article on the Fair appeared in The Journal July 16 and 23

STATE BOARDS THAT RECIPROCATE

Several Correspondents The following states provide for reciprocity in their laws or else have authority to so provide vested in their state examining boards Wisconsin Indiana, Michigan, Ohio Iowa Kansas Illinois Nebraska, Kentucky Pennsylvania (eclectic) Maryland Georgia Oklahoma New Jersey and Maine The method of reciprocity is not the same in all Some of these reciprocate on the basis of Qualification 1, some on the basis of Qualification 2 and some on both These qualifications appeared in The Journal, August 13, page 481

DEALER IN MEDICINE AND SURGERY

An Indiana physician has the following corner grocery store announcement on his letter heads Dealer in Medicine and Surgery Specialties Diseases of Women and Childbirth"

TEXT BOOKS ON URINALYSIS

Dr. J A C Greenfield Ill Among the best works on urinalysis are those by Purdy von Jaksch, Tyson and Ogden

Marriages.

W J Spenol, M D, Camilla, Ga, to Miss Louise Callaway of Albany, Ga, August 12

Ethan Allen Gray, M D, to Miss Elise Marie Baumann, both of Chicago, August 17

L H Carpenter, M D, Grundy Center, Ia, to Miss May Erwin of Pecatonica, Ill, July 30

Samuel M Jenks, M D, Madison, S D, to Mrs Harriett Van Erman of Faribault, Minn, August 15

Nicholas Trigant Burrow, M D, Norfolk, Va, to Miss Emily Sherwood Bryan, at Cambridge, Md, August 9

Carl L Brimi, M D, Cooperstown, N D, to Miss Elizabeth Minke of Minneapolis, Minn, at St Louis, Mo, June 28

Willis Le Baron Hale, M D, North Attleboro, Mass, to Mrs Georgie Powell Hopkins, at Onancock, Va, August 9

Deaths.

Ralph Chandler, M D Rush Medical College, Chicago, 1886, a member of the American Medical Association, Wisconsin State Medical Society, Milwaukee County Medical Society, and Association of Military Surgeons of the United States, captain and assistant surgeon in the Wisconsin National Guard for eighteen years, and surgeon of the First Light Battery, one of the most brilliant young surgeons of Milwaukee, for several years a member of the staff of the Johnson Memorial Hospital, died at Knowlton Hospital, Milwaukee, August 12, two days after an operation for intestinal obstruction, aged 41 At the funeral the honorary pallbearers were representatives of the medical fraternity, the Loyal Legion and the Wisconsin National Guard, while the active pallbearers were non commissioned officers of the First Light Battery, in which he had been an officer for eighteen years

John Womack Hayes, M D Washington University School of Medicine, Baltimore, 1870, a member of the American Medical Association, president of the Tri State Medical Association of Mississippi, Arkansas and Tennessee, past president of the Arkansas State Medical Society, Carroll County Medical Society, and Lee County Medical Society, member of the Tri County Medical Society, who, on account of persistent overwork, had broken down so that an operation was necessitated in February, died by taking sixty grains of morphin, at his home in Eureka Springs, Ark, August 8, aged 56

Henry C Coty, M D University of Louisville, Ky, 1880, of Shreveport, La., a member of the Louisiana State Medical Society and Shreveport Medical Society, coroner of the parish of Caddo, and local physician for the Texas and Pacific, and Houston East and West Texas Railroad, died in New York City, August 10, from uremia, aged 45 The Shreveport Medical Society, at a special meeting, August 13, adopted resolutions of respect and sympathy

Albert W Warden, M D New York University, New York City, 1880, of Union Hill, Weehawken, N J, a member of the American Medical Association, died from septicemia, due to an operation wound, August 9, at the Presbyterian Hospital, New York City, after an illness of three weeks, aged 47 He was at one time assistant surgeon in the National Guard of New Jersey and assigned to the Ninth Infantry

Frank Howard Payne, M D Rush Medical College, Chicago, 1874, a member of the American Medical Association, Medical Society of the State of California, and Alameda County Medical Society, a member of the faculty of the College of Physicians and Surgeons, San Francisco, died from erysipelas, August 8, after an illness of one week, at his home in Berkeley, Cal, aged 53

George T Heston, M D University of Pennsylvania, Philadelphia, 1852, one of the oldest physicians in eastern Pennsylvania, died at his home in Newtown, August 15, from Bright's disease, aged 78

Jonathan S Whitely, M D Ohio, 1878, of Corry, Pa, and secretary of the local board of health, was drowned while fishing on Findlay's Lake, N Y, July 27, aged 48

John J Covert, M D University of Michigan, Ann Arbor, surgeon of volunteers in the Civil War, died at his home in Lawrenceville, Pittsburgh, Pa, July 12, aged 81

Thomas B La Rue, M D University of Nashville Medical Department 1852 who retired from practice in 1902, died at his home in Smith's Grove Ky, July 19, aged 83

George A. Carlin, M D University of Wooster Cleveland, 1872, died at his home in West Salem, Ohio, July 28, from diabetes after an illness of several months, aged 59

Orville Follett, M D Medical School of Maine at Bowdoin College, Brunswick 1841, died at his home in Normal, Ill, August 12 after a protracted illness aged 88

Charles Martin Schafer, M D Western Pennsylvania Medical College, Pittsburg 1900, died at his home in Pittsburg Pa, July 25, after an illness of six weeks, aged 27

Emil H Schellack, M D St Louis College of Physicians and Surgeons, 1886 died at his home near Galena, Kan, August 9, from septicemia, after a long illness, aged 60

George V Wenner, M D Medico Chirurgical College of Philadelphia, 1896, died from the effects of an overdose of cocain, at his home in Milford, N J, July 23, aged 40

Charles E Cockey, M D University of Maryland Baltimore 1866, secretary to the Board of Health of Queen Anne County, died at Queenstown, Md, July 31, aged 62

Arthur Napoleon Herwig Brown, M D Memphis (Tenn) Hospital Medical College, 1893, died at his home in McDonoughville, La, July 30, after a long illness, aged 31

Charles H McCann, M D Cooper Medical College, San Francisco, died at the American Hospital, City of Mexico, July 8 after an illness of five days, aged 40

John H De Puy, M D Willoughby (Ohio) University Medical Department, 1846, died at his home in Wabash, Ind, July 20 after a short illness, aged 83

Peter Sutton, M D, a retired physician of Adrian, Mich, died at his home in that city from senile gangrene, after an illness of six weeks, August 1, aged 78

James H McCullough, M D Trinity Medical College, Toronto, Ont., 1883, formerly of Owen Sound, Ont, died at his home in Battleford, N W T, July 12

Robert L Hadley, M D Medical Department of the University of Tennessee, Nashville, 1878, died at his home in Edgefield, Tenn, July 10, aged 65

George P Johnson, M D Albany (N Y) Medical College, 1867, was found dead in bed at his home in Mexico, N Y July 17, from apoplexy, aged 59

David L Bailey, M D New York University, New York City, 1875, died recently at his home in Carbondale, Pa, from septicemia, due to a pin scratch

Ivo W Buddeke, M D Ohio, 1875, died, July 11, in a congestive chill at his home in Memphis, Tenn, after an illness of only a few hours, aged 52

William Allen Reed, M.D Rush Medical College, Chicago, 1882, died at his home in Necedah, Wis, August 6, from Bright's disease, aged 46

David C Spalding, M D University of Michigan, Department of Medicine and Surgery, 1858, died at his home in Lyons, Mich, July 14, aged 70

William H Renner, M D University of Maryland, Baltimore, 1870, died at his home in Industry, Kan, August 5, from asthma, aged 62

R. Irvin Walton, M D Medical College of Georgia, Augusta, 1877, of Danburg, Ga, was shot and instantly killed near Tignall, Ga, July 6

James S Gayer, M.D College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Plainville, Ill, February 25, aged 60

Van McHenry, M D Ohio, died at his home in Plainville, Ind., July 11, from kidney and liver disease, after an illness of three weeks, aged 75

Thomas Luther Thomason, M.D Baltimore Medical College, 1896, died at his home in Atlanta, Ga, July 29, after an illness of two weeks

Lyndhurst C Dodge, M D Albany (N Y) Medical College, 1862, died suddenly at his home, Rouse's Point, N Y, August 12, aged 63

Anthony Lechley Pillow, M D Jefferson Medical College, Philadelphia, 1845, died at his home in Columbia, Tenn, July 14, aged 85

Memory Lee Doom, M D Ohio, 1874, died at his home in Tacoma, Wash, June 30, from heart disease, aged 70

W B Dudley Jackson, M D Hospital College of Medicine, Louisville (Ky), 1875, died at his home in Brick Church, Tenn, August 7

Eli J Zook, M D Jefferson Medical College, Philadelphia, 1878, died suddenly at his home in Newville, Pa, July 10, aged 60

Henry A Jendrault, M D Albany (N Y) Medical College, 1882, died suddenly at his home in Dover, N H, July 11, aged 58

Alonzo D Kingsley, M D Massachusetts, 1847, died at his home in Muskegon, Mich, July 18, after an illness of one week, aged 82

John C Campbell, M D Ohio, 1874, died suddenly from hemorrhage of the stomach, at his home in Kenton, Ohio, July 22, aged 60

Jacob Graul, M D Germany, 1860, died at his home in St Louis, July 25, from dropsy, after an illness of several months, aged 70

John McSimpson, M D Indiana, 1888, of Chicago, was struck by a train at Pullman, Ill, and instantly killed, July 30, aged 58

George I Rice, M D Pennsylvania Medical College, Philadelphia, 1858, died at his home in Princeton, Ill, February 22, aged 72

W L Burns, M D, an aged physician of Maxton, N C, was found dead from exposure on the outskirts of the village, July 23

Osmer W Lounsberry, M D Ohio, 1874, died suddenly at his home in Wyoming, Ohio, August 5, from gastroenteritis, aged 68

Garrett Anderson, M D New York University, New York City, 1860, died at his home in Shacklefords, Va, August 4, aged 65

Samuel F Williams, M.D Medical College of Indiana, Indianapolis, 1883, died at his home in Casey, Ill, March 16, aged 50

Macon M Kilpatrick, M D Baltimore Medical College, 1892, died at his home in White Plains, Ga, July 18, after a long illness

Joseph L Wistein, M D Rush Medical College, Chicago, 1890, died at his home in Chicago, in April, 1903, aged 43

Nicholas Harrington, M D Starling Medical College, Columbus, Ohio, died, June 27, in Palermo, Kan, aged 79

Margaret Grey, M D Illinois, 1897, died in Chicago, August 11, from injuries sustained in a fall last February

W H Lippett, M D, of Roanoke, Va., died at the Roanoke Hospital, July 28, from typhoid fever, aged 28

Alexander S Campbell, M D Indiana, 1897, of North Liberty, Ind, died in Seattle, Wash, August 5, aged 87

A. J Atkinson, M.D, surgeon during the Civil War, died at his home in Lewistown, Pa., July 12, aged 83

L W Ellsworth, M D, formerly state senator, died at his home in Rappsburg, Ohio, July 25, aged 81

William B Kenyon, M D Pennsylvania, of Buffalo, N Y, died recently at Dansville, N Y, aged 57

John Needham, M D Ohio, 1864, died at his home in Glendora, Cal, July 8, from cancer of the liver

William J Patterson, M D, 1894, died at his home in Slippery Rock, Pa, from cancer, July 16, aged 37

Mary E Patridge, M.D New York, 1884, of Burlington, Vt, was drowned recently at Red Rocks, Vt

A. C Herman Schneider, M D Pennsylvania, 1900, died at his home in Moores, Pa, August 5, aged 25

Jacob Mellinger, M.D, a prominent chemist of Baltimore, died at his home in that city July 26

Charles S Rush, M D Pennsylvania, 1867, died at his home in Metropolis, Ill, July 28, aged 75

James Hayton, M D Illinois, 1877, died at his home near Carbondale, Ill, August 7, aged 88

Guy T Adams, M D Illinois, 1897, died at his home in Mendota Ill, May 31 aged 37

D W Strader, M.D, died at his home in Hiseville, Ky, July 18, after a long illness, aged 80

Rudolph D Baird, M D Colorado, 1898, died at Denver, Colo, August 5, from consumption

Harlan Harrison, M D Ohio, 1852, died at his home in Union City, Ind July 19 aged 79

Isaac C Detwiler, M D, Philadelphia, 1861, died at his home in Manheim, Pa, August 14

Milton R Maxson, M D Illinois, 1900, died at his home in Chicago, July 26, aged 60

H H Fledder-Johann, M D, died recently at his home in New Knoxville, Ohio, aged 88

Ralph Lee Cooper, M D, 1861, died at his home in Ogontz, Pa, August 2, aged 77

John Walters, M D Illinois, 1896, died at his home in Joliet, Ill, March 25, aged 52

John E Whitecraft, M D Illinois, died in Pawnee County, Kan, June 21, aged 66

Lewis J Field, M D Illinois died at his home in Dietrich, Ill, March 22, aged 83

Ferdinand Hoffmann, M D Illinois, 1897, died at his home in Chicago, July 10

Emma N Warne, M D Illinois, 1897, died Oct 7, 1902, aged 50

Book Notices.

A SYSTEM OF PRACTICAL SURGERY By E von Bergmann, M D, P von Bruns M D and J von Mikulicz, M D Volume III Translated and Edited by William T Bull M D, Professor of Surgery, College of Physicians and Surgeons, Columbia University New York, and John B Solly, New York Surgery of the Extremities Cloth Pp 918 Price $6 00 New York and Philadelphia Lea Brothers & Co 1904

When this work appeared in the original but a short time ago it was at once recognized as a work of great merit The first edition was soon exhausted and a second revised edition of four volumes at once issued This is an English translation of the second German edition, and the first three volumes are already out Volume 1 takes up surgery of the head There are no opening chapters on general pathology, aseptic methods, etc, as is so common in similar works, but the authors enter at once on their subjects Vol 2 treats of surgery of the neck, thorax and spinal column, and Vol 3 of surgery of the extremities The subjects are covered extensively, yet concisely, and when operative procedures are discussed more attention is given to the careful description of some one standard method than to briefly describe several methods The work is extensively illustrated with numerous cuts and colored plates most of which are new It is without doubt the best modern text book on surgery, and the profession is to be congratulated on having such an excellent English translation

THE DOCTOR'S RECREATION SERIES (In Twelve Volumes) Vol I The Doctor's Leisure Hour Facts and Fancies of Interest to the Doctor and His patient Arranged by Porter Davies M D Cloth Pp 352 Vol II The Doctor's Red Lamp A Book of Short Stories Concerning the Doctor's Daily Life Selected by Charles Wells Moulton, General Editor of the Series Cloth Pp 343 Price $2 50 per volume Chicago, Akron, New York The Saalfield Publishing Co 1904

Here is something new—at least, as far as we are aware The first two volumes of the Doctor's Recreation Series promise that the set will be a very interesting addition to the physician's library Volume 1 contains a wealth of humorous short stories, puns and anecdotes of a medical nature The selections are very well made and many a delightful interval may be passed in their perusal

Volume 2 is a book of several longer stories concerning the physician's daily life The volumes are large and well bound and are illustrated with reproductions of famous paintings of appropriate subjects It will be interesting to watch for subsequent volumes of this series

THE PRACTITIONER'S GUIDE By J Walter Carr M D (London) F R C P Physician Royal Free Hospital T Pickering Pick F R C S Consulting Surgeon St George's Hospital and Victorian Hospital for Children Alban H G Doran F R C S Surgeon to the Samaritan Free Hospital Andrew Duncan M D B D (London) F R C S, M R C P Physician Branch Hospital Seamen's Hospital Society Cloth Pp 11[illegible] Price $8 00 New York London and Bombay Longmans Green & Co 1902

The Practitioner's Guide is a book of reference in the form of a dictionary, in which the busy practitioner may find with little loss of time the salient points regarding the symptoms, differential diagnosis and treatment of diseases The etiology is only briefly referred to for obvious reasons A considerable amount of space is devoted to gynecology Obstetrics is entirely omitted Considerable space is given to tropical diseases which of late years have excited more interest in the medical world In the consideration of surgery only the emergency operations are described in detail

Miscellany.

Case of Genuine Recurrence of Cholelithiasis—Klemperer of Carlsbad reports a case in the *Prager medicinische Wochft* No 28, 1903, in which the patient has voided more than a hundred stones, commencing about three months after cholecystectomy The biliary passages were apparently cleared out during this operation, and even if a few stones had been left behind, they would not explain the large number passed since

Permanently Barred from Pennsylvania—At the meeting of the Medical Examining Board of Pennsylvania, three candidates for license to practice were expelled for cheating The medical council has decided to bar these candidates permanently from future examinations This is in just recognition of the fact that character is equally important as knowledge in the practice of medicine and the decision marks an important step in the general advancement of the profession under the influence of the examining boards—*Penn Med Journal*

Notes on American Hospitals—Campbell Douglas, L R C P Ed, in an article in the *Glasgow Medical Journal*, February 1904, says

> The American medicine man of to-day is a worthy descendant of all the great men of the past young and keeping young even when his years are many restless energetic bold he is ever striving toward an unseen ideal He is like the art he practices in a transition stage sifting the great mass of chaff for the few grains of wheat and with a resolute determination to find them He is jogging along in no rut he is traveling over unbroken ground, with all the magnificent energy of his race The future of our profession seems well assured in the hands of such a man and the day may come I think when the younger members of our calling will go to extend their knowledge and finish their education not in Berlin or Paris or Vienna but in New York and Baltimore and Chicago

Danger of Lumbar Puncture in Case of Brain Tumor—Masing reports in the *St Petersburger med Wochft*, of Jan 16, 1904, from Dehio's clinic, the case of a young woman exhibiting headaches and disturbances in vision—diagnosed as due to a brain tumor in the right frontal lobe Great relief was experienced after withdrawal of 300 c c of blood Four days later 002 gm of pilocarpin were injected Three days after this 30 c c of cerebrospinal fluid were withdrawn by lumbar puncture The pressure was about 10 to 15 c c at first but dropped to zero Nausea followed at once with convulsions and the patient died in fifteen hours The necropsy revealed a recent rupture of an arroded blood vessel in a microscopic sarcomatous focus

Akathisia—The term akathisia has been applied to a syndrome consisting in an inability on the part of the patient, with preservation of consciousness, to remain seated, on the one hand, in consequence of repeated, involuntary, compulsory attempts to jump up, and on the other hand, as a result of an impulse to alternate the sitting with the erect posture The impulse is at times so powerful as to compel the patient to grasp some object firmly to prevent himself from rising Dr Ladislaus Häskovec (Wiener medizinische Wochenschrift March 26, April 2, 1904) has reported two instances of the disorder, and has suggested the name for it One of these occurred in a case of hysteria and the other in a case of neurasthenia Häskovec considers the affection a functional disturbance of a cortical origin, constituting in the first case a form of spasmodic tic or myoclonus, and in the second a transition to an emotional disorder An instance similar, though not identical in character, has been reported by Raymond and Janet (Nouvelle Iconographie de la Sâlpetrière, June, 1903) in a case of occupation neurosis in a goldsmith attended with a phobia

State Boards of Registration.

COMING EXAMINATIONS

New Hampshire State Medical Board September 8 9 State House Concord Regent Channing Folsom Concord,

Massachusetts Board of Registration in Medicine September 13 14 State House Boston Secretary Edwin B Harvey M D Boston

Missouri State Board of Health September 19 21 St Louis Secretary W F Morrow M D Kansas City Mo

Iowa State Board of Medical Examiners September 21 22 Capitol Building Des Moines Secretary J F Kennedy M D Des Moines.

Territorial Medical Examining Board of Oklahoma September 28 Guthrie Secretary F I Cowdrick M D, Enid

Ohio Report —The report of the Ohio State Board of Medical Registration and Examination furnished by the secretary was complete, but, through some oversight when printed in THE JOURNAL, August 6, page 415, the following data were omitted

PASSED

College	Year Grad	Per Cent
Bellevue Hospital Medical College N Y	(1897)	80
Miami Medical College	(1903)	91

(1904) the grade of 82 was reached by three 85 by two 89 by three 91 by four 92 by one and 94 by one

The general average attained by all representatives of Miami was 88 2

South Dakota July Report —Dr H I McNutt secretary of the South Dakota Board of Medical Examiners reports the written examination held at Watertown, July 13 and 14 1904 The number of subjects examined in was 10 total questions asked, 79, percentage required to pass, 75 The total number examined was 27, of whom 19 passed and 6 failed * The following colleges were represented

PASSED

College	Year Grad	Per Cent
Rush Medical College Chicago	(1900) (1903) (1904)	84 3 79 5 87 9 87 7 87 7
Northwestern University Chicago	(1903) (1904)	70 8 75 7
Creighton Medical College Omaha	(1903)	82 9
Bennett Coll of Ecl Med and Surg Chicago	(1904)	90 7 75 3
College of Physicians and Surgeons Chicago	(1904)	79 7 77 9 83 3 81 8 81 3 90 3 84 5
Sioux City College of Medicine	(1902)	83 2
Hamline University Minneapolis	(1903)	76 7†

FAILED

College	Year Grad	Per Cent
Rush Medical College	(1889) (1896)	48 6 64 3
Hamline University	(1903)	69 3
University of Vermont	(1890)	60 7
Memphis Hospital Medical College	(1904)	73 3

* Two who passed the examination were not granted licenses pending further investigations and one who failed did not give satisfactory references

†Second examination

This was the regular semi annual meeting The old officers were re elected. A resolution favoring reciprocity in examination with other state boards was passed, also a resolution defining the minimum qualifications of graduates from medical schools to be considered in good standing by this board

Recent Pennsylvania Report —The report of the Pennsylvania State Board of Medical Examiners, just completed shows that of 379 applicants examined, 73 failed to meet the requirements, or 19 41 per cent of the whole The usual percentage of failures is 13 or 14 Analyzing the records of the 73 applicants who failed, 10 failed in two other examinations, and 5 came up for a second re examination One had failed on 4, another on 5 and another on 7 previous occasions One had failed before and also had been expelled for cheating Dr Henry Beates, president of the board said that the large percentage of failures discloses the fact that some medical colleges still confer the doctorate on illiterate and ignorant individuals

Georgia Will Reciprocate —During the last hours of the session of the Georgia legislature—thus writes Dr I H Goss, president of the Regular Board of Medical Examiners of Georgia—by the kind efforts of one of our representatives, Dr L G Hardman of Commerce, Georgia, we got an amendment to our medical law allowing reciprocity with all states which require the same standard as that of Georgia Our state requires a diploma from a recognized college—one requiring three or more years of study, and one in good standing in the college association—and examination in anatomy physiology, materia medica and therapeutics, chemistry, obstetrics, surgery, gynecology, practice diagnosis and pathology, and the applicant is required to make not less than 75 per cent on a general average, and a fair average on all the branches The next meeting for permanent license will be held in Atlanta at the Capitol, Oct 11 1904

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers U S Army week ending Aug 27 1904

Noble R L asst surgeon relieved from U S General Hospital Washington Barracks D C and ordered to U S General Hospital Presidio of San Francisco for duty

Gregory Junius C asst surgeon relieved from duty at U S General Hospital Presidio of San Francisco and assigned to duty as surgeon on the *Sheridan* during voyage to Manila and on arrival to report to commanding general Philippine Division for assignment to duty

Davis Wm R asst surgeon relieved from duty on *Sheridan* and to report to the military secretary for further orders

Kilbourne H S and Appel Daniel M deputy surgeon generals arrived at San Francisco from Manila P I on the *Sheridan*

Kilbourne H S deputy surgeon general retired from active service this date

Lynch Charles asst surgeon detailed as general staff officer Army maneuvers to be held at Manassas Va and will report there Aug 27 1904

De Witt Wallace asst surgeon granted one month and fifteen days leave on or about Sept 20 1904

Cox Walter asst surgeon leave of absence extended to include Aug 27 1904

Lyster Wm J L asst surgeon granted thirty days leave, with permission to apply for thirty days extension

Raymond Thos U surgeon relieved from further duty at the Louisiana Purchase Exposition St Louis and ordered to Fort Assinniboine Mont for duty

Perley Harry O deputy surgeon general promoted to lieutenant colonel and deputy surgeon general U S A to rank from Aug 14 1904

Purviance, Wm E surgeon promoted major and surgeon U S Army Aug 14 1904

Perley Harry O deputy surgeon general relieved from duty at Fort Logan Colo and ordered to West Point N Y

Rhoads Thos L asst surgeon relieved from duty as attending surgeon and examiner of recruits Philadelphia, and ordered to West Point N Y for duty

Webb W D asst surgeon relieved from duty at West Point N Y and ordered to Fort Huachuca Arizona, for duty

Snyder Henry D surgeon reports in addition to duty as surgeon Fort Sam Houston Texas he is in charge of C S O Department of Texas

Tignor Edwin P contract dental surgeon detailed to represent the dental corps of the Army at the Fourth International Dental Congress at St. Louis Aug 29 to Sept 3

Pomeroy William H contract surgeon returned to duty Aug 14 at Springfield Armory Mass from leave of absence

Whitney Walter, contract surgeon granted an extension of one month to his leave of absence from the Philippine Division

Barber Amos W contract surgeon ordered from Fort D A Russell Wyo to Fort Riley Kan for temporary duty

Gunckel George I contract dental surgeon ordered from his home at Greenville Ohio to duty in the Philippine Division and will sail for Manila on the transport leaving San Francisco Sept. 1

Ayer Ira, Onesti Silvio J and Greenberg Harry contract surgeons Rietz Hugo C Waddell Ralph W and Ware William H contract dental surgeons arrived at San Francisco Aug 14 on the transport *Sheridan* from Philippine service Dr Ayer has two months leave of absence and Dr Onesti three months leave of absence Dr Rietz has been assigned to Fort Sheridan Ill Dr Waddell to Fort Leavenworth Kan and Dr Ware to Fort Logan Colo

Navy Changes.

Changes in the medical corps U S Navy for the week ending Aug 20 1904

Farenholt A surgeon detached from the *Concord* and ordered to the *Monterey*

Lowndes C H T detached from the *Chesapeake* and ordered to the Naval Academy

Means V C B surgeon detached from the *Monterey* and ordered to the *San Francisco*

Heiner R G asst surgeon detached from the Naval Hospital New York, and ordered to the *Southery*

Fitts H B surgeon, detached from the *Pensacola* and granted leave for thirty days

Marine Hospital Service

Official list of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended Aug 11 1904

Clark, Taliaferro P A surgeon granted leave of absence for one month from September 15

Lumsden, L L P A surgeon granted leave of absence for four days from July 23 1904 on account of sickness

Cook, B J A A surgeon granted leave of absence for ten days from August 3

Gahn Henry pharmacist granted leave of absence for fifteen days from August 15

Slough, Chas pharmacist granted leave of absence for thirty days from August 10

Holsendorf B B pharmacist granted leave of absence for thirty days from September 1

Stier Carl pharmacist granted leave of absence for thirty days from August 17

RESIGNATION

Ferdinand G O pharmacist resigned to take effect Aug 17 1904

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service during the week ended Aug 19, 1904

SMALLPOX—UNITED STATES

District of Columbia Washington Aug 6 13 1 case
Illinois Chicago Aug 6 13 8 cases
Louisiana New Orleans Aug 6 13, 0 cases
Maine Madawaska region July 31 Aug 6 11 cases
Massachusetts North Adams Aug 6 13 5 cases 1 death
Michigan Grand Rapids Aug 6 13, 1 case
Missouri St Louis Aug 6 13 1 case
Nebraska Omaha Aug 6 13, 1 case
New York New York City Aug 6 13 1 death
Ohio Cincinnati July 19 Aug 5 2 cases
Washington Tacoma July 23 30 1 case
Wisconsin Milwaukee Aug 6 13 cases

SMALLPOX—INSULAR

Philippine Islands Manila, June 4 11, 3 cases, 2 deaths

SMALLPOX—FOREIGN

Brazil Bahia July 8 23 15 deaths Pernambuco July 1 15, 23 deaths Rio de Janeiro July 3 17 112 cases, 217 deaths
Formosa June 1 30 3 cases
France Paris July 23 30 11 cases, 2 deaths
Germany Berlin July 9 16 5 cases
Great Britain July 16 0 Edinburgh 4 cases London 13 cases 3 deaths Newcastle on Tyne 13 cases 2 deaths, Glasgow, July 28 Aug 5 1 case July 31 Aug 6 Leeds 1 case Liverpool, 1 case 1 death Manchester, July 23 30, 1 death South Shields, July 16 23 1 case
India Bombay July 12 19, 6 deaths Calcutta, July 2 9 1 case Karachi July 10 17 3 cases
Mexico City of Mexico July 24 31 3 cases
Russia July 16 23 Moscow, 10 cases 5 deaths St Petersburg 3 cases 1 death Warsaw July 2 9 16 deaths
Turkey Alexandretta, July 16 23 2 deaths Beirut July 23 30, present Constantinople July 24 31 5 deaths Smyrna, June 20-July 24, 2 deaths

YELLOW FEVER

Brazil Rio de Janeiro, July 3 17 4 cases, 1 death
Colombia Barranquilla July 24 30 1 death
Mexico July 21 Aug 6, Coatzacoalcos, 4 cases 2 deaths, Vera Cruz 2 cases
Panama Ancon, Aug 1 1 case Panama June 25 Aug 1, 1 case
Venezuela Maracaibo July 17 24, 1 case, 1 death
West Indies Curacao, July 9 Aug 5 1 case, 1 death

CHOLERA

India Calcutta July 2 9 9 deaths
Persia Teheran, June 9 16 epidemic
Turkey in Asia July 12 227 cases, 213 deaths.

PLAGUE—INSULAR

Hawaii Honolulu, Aug 15, 1 case

PLAGUE—FOREIGN

Africa Cape Colony July 2 9 1 case
Australia June 11 18, Brisbane 1 case, Maryborough, 1 case, Sydney 1 case 1 death Perth June 20 July 4 2 cases 1 death
Brazil Bahia June 8 23, 7 deaths, Rio de Janeiro, July 10 17, 7 cases, 4 deaths
China Hongkong June 18 25 44 cases 40 deaths
Egypt July 9 16 14 cases, 8 deaths
Formosa June 1 July 16 410 cases 467 deaths
India Bombay July 12 19 58 deaths Calcutta July 2 9, 18 deaths Karachi July 10 17 1 case 1 death
Peru Lima July 2 9 4 cases 2 deaths

Society Proceedings.

COMING MEETINGS

American Medical Association, Portland, Ore, July 11 14 1905

Oregon State Medical Association Portland August 30 31
Rocky Mountain Interstate Medical Association, Denver, September 6 7
Wyoming State Medical Society, Rawlins, September 13
American Electro-Therapeutic Assn St. Louis September 13 15
American Association of Obstetricians and Gynecologists St Louis September 13 16
Medical Society of the State of Pennsylvania Pittsburg September 27 29

BRITISH MEDICAL ASSOCIATION

Seventy Second Annual Meeting, held at Oxford, July 26 30, 1904

(Continued from page 562)

Address in Surgery

The address in surgery was delivered by Sir William Macewen, Glasgow He spoke first on the cerebral invasion of pathogenic and pyogenic organisms He referred to the localization of brain abscess, saying that prior to the advent of cerebrospinal surgery abscess of the brain was regarded as of a pyemic nature and occurring by metastasis Where abscess occurred secondary to a primary pyogenic cranial lesion, some were inclined to believe that it was due to a pyemic manifestation and could occur in any part of the brain without relation to the primary lesion Early observation showed that this view was erroneous and that all brain abscesses arising in the cranial cavity, if not in direct contact with such foci of infection, were at least in contact with the infective path which lay between the primary focus and the abscess He said that if the cerebral abscess remains untreated and continues to grow, it may implicate other regions of the brain For example, in an intracranial abscess resulting from ear disease the abscess will form within a limited area of the middle ear, extension being limited by the anatomic condition of the parts and the prior pathologic encroachments If the micro organisms enter the cranium by means of the tegmen, abscess of the cerebellum is frequent, while if they have traveled by way of the internal auditory meatus leptomeningitis is the result, with early involvement of the medulla and respiratory centers Tuberculous meningitis may occur without perforation of the tympanic membrane and without swelling over the mastoid In several cases the internal auditory meatus was the channel by which the tuberculosis spread from the middle ear to the membranes in the cranial cavity

He also said that tuberculosis of the mastoid may become a menace to life by a dissemination through the sigmoid sinus to other parts of the body In a number of cases the lumen of the sinus has been invaded by the tuberculous granulation tissue

THE RECOGNITION OF RESPIRATORY AND CARDIAC REFLEXES

He spoke next on the recognition of respiratory and cardiac reflexes in anesthesia caused by peripheral impressions on the pudic nerve, and referred briefly to a case in which an alarming spasm of the glottis occurred when the sphincter ani was stretched during an operation for hemorrhoids

CHOICE OF SUTURE MATERIAL.

In the choice of suture material he said that, though many surgeons regard asepsis as the sole requirement, it is in fact only one of many requirements He said that the material must be strong enough to keep the tissues in contact long enough for union to take place, as well as being capable of being absorbed He condemned buried non absorbable suture material He spoke at some length on the time required for different tissues to unite and the time required for catgut and other sutures to be absorbed, illustrating his remarks with microscopic sections He also emphasized the fact that, when absorbable sutures are used, it is unnecessary to disturb the patient to remove stitches

Present Condition of the Aseptic Treatment of Wounds

Mr Burghard, London, used the term "aseptic" to embrace all the measures adopted to keep the wound free from the ill effects of septic micro organisms as distinguished from the term antiseptic, which implied that sepsis was already in existence For the sterilizing of instruments the simplest method is boiling, but, half an hour should be allowed in order to certainly destroy spore bearing organisms A disadvantage is that it damages sharp instruments Sterilization by superheated steam is efficient if properly carried out, but without care is liable to fail Mr Burghard, therefore, rejects it Chemical antiseptics are useful for the disinfection of wounds, but must be used in weak solutions, otherwise they damage the tissues With regard to the surgeon's hands, experiments show that simple washing will remove many organisms, but is not to be relied on The results, however, are good when reinforced by saturating the skin with antiseptics for a fairly long period Sterilized gloves are open to many objections With them it is difficult to perform delicate manipulations, and there are many chances of damaging the gloves and bringing the unsterilized hand in contact with the wound The use of rubber gloves should be confined to virulently septic cases, where the surgeon is doubtful whether he can prevent his hands from carrying infection to the next case At King's College Hospital Professor Watson Cheyne and Mr Burghard boil all instruments except the sharp steel ones for half an hour, the latter are plunged into liquefied carbolic acid for five minutes, so, also, are all instruments required during an operation, which have not been sterilized beforehand Ligatures of chromic cat gut are soaked in a 1 in 20 carbolic solution for at least a week Silk and silkworm gut are sterilized by first boiling and then being kept in 1 in 20 carbolic acid Instruments, ligatures and sutures are dipped in 1 in 2,000 corrosive sublimate solution to wash off the carbolic acid The hands are freed from grease by turpentine, followed by prolonged washing with pumice stone, nail brush, soap and hot running water, and are then immersed in a 1 in 20 carbolic solution with 1 in 500 corrosive sublimate, which is afterward washed off in a 1 in 2,000 sublimate solution The patient's skin is prepared in a similar way (if possible, some hours before operation) and then covered with an antiseptic gauze dressing, and the cleansing is repeated on the operating table The field of operation is surrounded with boiled towels which have been immersed in a hot 1 in 2,000 lotion Marine sponges are used They are kept in a jar in a 1 in 20 carbolic solution They are taken out with forceps and dropped into a 1 in 2 000 sublimate solution During the operation they are frequently squeezed out of this solution to free from blood The operator and his assistants frequently rinse their hands in this solution After closing the wound double cyanid gauze wet with 1 in 4,000 sublimate, is applied

DISCUSSION

In the discussion which followed many other methods were mentioned

Mr. Stiles, Edinburgh, insisted that the great danger of infection lay in its conveyance by contact from case to case by the surgeon

Early Diagnosis and Radical Operation for Mammary Cancer

Dr. W L Rodman, Philadelphia, read a paper on the Early Diagnosis and Radical Operation for Mammary Cancer The following were his conclusions 1 Cancer is not only increasing in frequency, but it is also occurring more frequently in young subjects and has become common in races once immune 2 In young subjects the prognosis is less favorable, as the lymphatics are more numerous and potent than in the aged, in whom many are atrophied 3 An early diagnosis should be made, and no time lost in waiting for an operation, as metastases to the axillary glands and internal organs occurs early 4 When in doubt as to malignancy, a complete operation should be arranged for, but before removal of the breast an exploratory incision should be made into the growth and a piece from near its center examined by a pathologist (who can report in 10 minutes) If malignant, a complete operation should be done at once In women past 40 the chances in favor of malignancy are as 13 to 1, and should, therefore, be assumed 5 Carcinoma of the sternal is less common than in the axillary hemisphere, but probably more frequent than is generally supposed The prognosis is worse than in cancer of the axillary hemisphere 6 Recurrence being usually in the skin, its removal can not be too free Skin grafting or closure of the wound by plastic flaps (the preferable method) will frequently be necessary 7 Both pectoral muscles should be always removed, regardless of infection, so that all diseased tissue can be removed at one piece and the axillary dissection both more thoroughly and safely made Their loss does not increase the mortality, lengthen the convalescence or impair the subsequent usefulness of the arm 8 The supraclavicular glands should be removed if palpably enlarged, or if the topmost axillary glands show macroscopic involvement, otherwise their removal is unnecessary 9 Wounds of the axillary vessels have been infrequent since the muscles have been removed as a routine process 10 Drainage should always be made. 11 The 3 year limit of Vallsmann is insufficient and should be extended to at least 5 years Recurrence may take place after 10 or more years 12 Radical operation, if performed early, should give more than 50 per cent. of cures

Hepatic Drainage

Dr. John B Deaver, Philadelphia, read a paper on "Hepatic Drainage" The following were his conclusions 1 The mortality of biliary tract surgery is proportionate to the extent of the complications 2 Lesions of the liver, gall bladder and their ducts are the result of an infection usually persisting up to the time of operation 3 The salvation of infectious cases lies in prolonged drainage of the bile 4 Cholecystostomy is the operation of choice in such cases, and cholecystectomy only to be resorted to when changes in the gall bladder require its excision 5 Hepaticus or choledochus drainage should not be considered if cholecystostomy is feasible, unless it be necessary to open the common or hepatic ducts for the extraction of a stone 6 Early diagnosis and prompt operation are essential for a low mortality, where gallstones are present or not

(To be continued)

CALIFORNIA ACADEMY OF MEDICINE

Meeting held at San Francisco, July 26, 1904

The President, Dr T W Huntington, in the chair

Studies on a Salt-Free Diet.

Dr. A E Taylor described the results of a salt free diet on metabolism The question has a great clinical interest on account of the recent observation of Widal that in certain cases of nephritis a diminution in the amount of chlorids ingested will dispel the edema Dr Taylor placed himself on a diet consisting of 70 gm of egg albumin, 120 gm of olive oil and 200 gm. of cane sugar daily Such a diet will yield about 2,300 calories daily and contains only about 100 mg of salts During the first day of the experiment, 2,000 c c of urine were passed, during the second, 1,900 c c After the third day the amount fell to normal and remained there Diaphoresis was a more marked symptom than diuresis Although the weather was cold, he was in a continual state of perspiration On the fifth day general muscular soreness was experienced, and later the muscles became very painful On the eighth and ninth days muscular twitchings developed The reflexes remained normal On the ninth day acetone and diacetic acid were discovered in the urine, and the experiment was terminated

The urine was increased only during the first few days Its reaction remained remarkably constant. The amount of salts gradually diminished and approached a minimum constant The indican and the paired sulphates gradually increased On the last day the ammonia increased very much owing to the acidosis The gastric analysis and the saliva were apparently normal

The presence of acetone and diacetic acid in the urine in this experiment is difficult of explanation There seems to be no connection with the ordinary causes of acidosis, viz, starvation, excessive fat or meat diet, or diabetes

Three or four pounds weight were lost during the experiment apparently mostly water, since it was rapidly recovered in the next few days

Renal Lesions with Misleading Symptoms

Dr. L. W Allen reported two cases of renal disease in which misleading symptoms were present The first was a healthy looking, well nourished woman, who complained of a tumor in the right side and some discomfort in this region Examination showed some enlargement of the right kidney There was no fever, and the urine showed only a faint trace of albumin The kidney showed at operation very advanced tuberculosis

The second patient suffered from sweats and irregular fever, and was extremely emaciated The right kidney was enlarged and very tender Leucocytes were 6,000 The urine, especially that from the right kidney, contained a large amount of pus, and cultures showed colon bacilli No tubercle bacilli were found Nevertheless, renal tuberculosis seemed the probable diagnosis on account of the general condition of the patient At operation no abscesses were found in the kidney There was a pyelitis from which colon bacilli in pure culture were obtained Complete recovery took place The patient had evidently suffered from a chronic sepsis as the result of a colon bacillus infection

DISCUSSION

Dr. Ophüls said that in regard to the first case it is not unusual for a ureter to become blocked in renal tuberculosis so that urinary examinations fail to show any abnormality In regard to the second case, chronic septic conditions seem to be much more common than is generally supposed For example, he had recently observed *a number of cases of malignant* endocarditis *of* two and three years standing, caused by an organism of low virulence Such cases are clinically usually mistaken for non malignant endocarditis

Intermittent Claudication

Dr P K **Brown** has recently seen two cases of this disease, and in this connection spoke of Erb's[1] recent paper

Dr A W **Hewlett** reported a case of a man of 67 years who suffered from pains and sensations of cold in his feet whenever he walked After walking about a block these sensations would appear, and he would be compelled to stop and rest. After five or ten minutes his legs felt normal, and he could again walk with comfort There was no pulsation in the arteries about his feet, which were cold and pale, except for a bluish area *on the ball of the great toe* Later the patient developed cardiac insufficiency from an associated myocarditis, and since he has been in bed the symptoms of coldness and pain in the feet have disappeared

Dr R **Cabot** stated that he had seen two cases of intermittant pains in the abdomen possibly due to arteriosclerosis of the splanchnic vessels Without autopsy however no positive diagnosis could be made In regard to the influence of alcohol as a causative factor in the production of arteriosclerosis, he has made a series of observations on alcoholics which would seem to show that the excessive use of alcohol alone does not produce arteriosclerosis

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in *these columns* without allusion to inquirer]

Hay Fever

Fick, in the *Therapeutische Monatshefte*, discusses the treatment of this condition with the Dunbar antitoxin and concludes that this antitoxin, which, according to Dunbar, produces a short lived immunity, does not and can not have any action at all In the second part of the paper *he gives* his own theory of the etiology of hay fever and his method of treatment The attacks are directly caused by *some irritant* agent, of which grass pollen is the most common The writer denies that the nasal symptoms are due *to vasomotor* disturbances, and shows that irritation of the nerve endings of the trigeminal causes a hypersecretion *This hypersecretion* is localized in the antrum of Highmore, and the fluid finds its way into the nasal fossa naturally The author states that he has found aristol to cure *all forms of nervous coryza*, including hay fever *He passes a canula*, which is very thin *and curved* in correspondence to the lower turbinated bone, into the maxillary antrum *in about 95 per cent of all the cases* Through this canula he blows the aristol powder into the antrum As a rule this need *only be repeated* every day for three days, after which the attacks become less frequent and milder When they recur the *insufflation* is repeated

Furuncles.

Gallois and Courcoux, in *La Presse Medicale*, recommends the following solution to be used in the abortive treatment of furuncles

℞	Iodin	ʒi	4
	Aceton	ʒiiss	10

M Sig Use locally by saturating an applicator carrying cotton and touching the nodules

Lesions which have not suppurated and even those which contain a drop or two of pus superficially, are aborted within twenty four hours

The solution is more caustic than the tincture, and must be used with greater care In an open wound it causes severe pain and may produce symptoms of iodism

Hyperhidrosis.

Excessive perspiration is a comparatively frequent and rather disagreeable condition The *most common localities* are the palms, soles, axillæ or genitals Kaposi recommends the following

℞	B naphthol	ʒiiss	10
	Spiritus colon	ʒiv	16
	Spiritus vini	℥vi	180

M Sig Use as a wash, or

℞	Naphthol	gr lxxv	5
	Glycerini	ʒiiss	10
	Alcoholis	℥iiiss	105

M Sig Wash feet night and morning with this mixture, dry, and then dust with this powder

℞	Naphthol	ʒss	2
	Amyli	℥vi	180

M Sig Use as dusting powder

The following is recommended to dust into the shoes each morning

℞	Pulv talc	ʒx	40
	Bismuthi subnitratis	℥iss	45
	Potassii perman	gr xlv	3
	Sodii salicylatis	gr xxx	2

Or, bathe the feet once daily *in* hot water, *dry*, and the following *may* be used as a dusting powder

℞	Acidi salicylici	gr lxxv	5
	Pulv alum	ʒiiss	10
	Pulv amyli	ʒx	40
	Pulv talc	℥ivss	135
	Alcoholis	ʒiiss	10
	Olei bergamot q s to perfume		

Chronic Rheumatism

Merck's Archives recommends the following

℞	Sodii iodidi	ʒii	8
	Vini colchici rad	ʒiv	16
	Sodii salicylatis	ʒiii	12
	Tr guaiaci ammon	℥ii	60
	Syr sarsaparillæ comp q s ad	℥vi	180

M Sig Dessertspoonful three times daily

The *Med Record* recommends for this condition

℞	Pulv guaiaci resinæ		
	Potassii iodidi, āā	ʒi	4
	Tr colchici seminis	ʒiii	12
	Syrupi simplici	℥ii	60
	Aquæ cinnamomi q s ad	℥vi	180

M *Sig* Dessertspoonful to a tablespoonful twice daily

Markly, in the *Med Summary*, advises that the patients eat less, bathe oftener and keep the skin active, drink a great deal of water, keep out of draughts and avoid colds, keep the bowels active, urine neutral or slightly alkaline, and take a course of iron three or four times a year The patient should also take colchicin in ascending doses until he has at least two good stools daily, then continue that dose a long time

Muscular Rheumatism

The salicylates are seldom of much benefit Gentle rubbing and mild counter irritation are always indicated The following formula has given great satisfaction in French hospitals

℞	Spiritus camphoræ		
	Spiritus terebinthinæ āā	℥iss	45
	Chloroformi	ʒii	8
	Mentholi	ʒi	4
	Balsami Peruvi	℥iss	45

M Sig Apply with gentle friction

Cholera Infantum

Wallace discusses this disease in the *Virginia Med Semi Monthly*, and outlines *the following method of treatment* which has been successful in his hands. Depression gives the keynote to the treatment, namely, stimulation. Each case is individual, but bold and early use of whiskey or brandy should be used in every case where the stomach will tolerate it. Give the stimulant freely, for alcohol will not poison half so quickly as the toxins in the blood.

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[1] The Journal A M A, p 203

The nausea and diarrhea he treats with heroic doses of calomel, one fourth of a grain every hour if the child is over six months old, continue until signs of bile in the stool or until three grains are taken. After the bile appears in the stool he gives a big dose of castor oil with a moderate dose of paregoric. The intestinal canal is kept clean by the administration preferably of bismuth subnitrate, which is usually well borne by the stomach, and is a simple and safe remedy. The sulfocarbolates and protan (Mulford's) may be used when the bismuth is not enough.

For diet rice water or albumin water are given: both leave very little detritus. The rice water is made as follows: two heaping tablespoonfuls of rice to two quarts of water, boil for three hours, adding water to keep up to two quarts.

The patient should be kept in bed. Tepid sponge baths should be given for the temperature.

Acute Infantile Diarrhea

Merck's Archives recommends the following:

℞	Tannalbin		
	Spiritus vini gal., aa	ʒii	8
	Syrupi simplicis	ʒiv	16
	Aquæ destil. q. s. ad	℥ii	60

M. Sig. Tablespoonful four to six times a day.

Hyperpyrexia in Scarlet Fever and Measles.

Berg, in the *Med. Record*, discusses the temperature in these two diseases, and gives the following as his method of treating the hyperpyrexia.

The patient is placed in a bath with the water at a temperature of 80 F., at the end of from five to ten minutes, depending on the case, the temperature of the water is raised to 90 F. by the addition of warm water. A bath at the temperature of 80 F. is a cooling bath to a patient with a temperature of 105 F., yet not cool enough to produce any evil effects on the capillaries. The subsequent raising of the temperature of the water has the effect of giving a warm bath after the cool one. Whatever ill effect may have been produced by the bath at the temperature of 80 F. is more than counterbalanced by the bath at 90 F., and still it is much lower than the temperature of the skin. The patient is taken from the bath and wrapped lightly in a sheet and covered by a thin blanket.

Caution. When warm water is added it must be poured into the bottom of the bath tub. The reason for this is that if the warm water is poured on the top it floats over the cool water, unless mingled mechanically by the nurse. For this purpose the author has used a tin funnel with a rubber hose long enough to reach the bottom of the tub.

The warm water is delivered through this tube and rises because of its lightness and is disseminated through the bath. The patient should not be rubbed after such a bath, because the warm additional water accomplishes all or more than the rubbing in the Brand bath and the friction is detrimental to the inflamed skin.

The temperature will be found to have declined from one and one half to three or more degrees, and the decline persists longer than any other methods I have tried in these diseases. Moreover, the eruption is not diminished, the pulse is improved, sleep generally induced, and a gentle perspiration covers the whole body.

Lesser degrees of temperature are treated with sponging with water at 70 F., to which one third of ordinary alcohol has been added. The alcohol acts the part of the added warm water in the bath and counteracts the ill effects of the cool sponging on the capillaries and nerve endings in the skin. Do not use friction. Use a large soft sponge, the excess of water should be absorbed by patting the skin with a soft towel, and the patient lightly covered as after the bath.

Obesity

Grocco, in the *Rivista Critica di Clinica Medica*, gives the following rules for the treatment of obesity. The cause must be ascertained if possible, and then regulate the income and outgo so that they will be equalized. He considers the condition to be the result of an excess of the ingesta or of a derangement of the metabolism of the body. Reduce the amount of liquids taken at meals, and allow the liquids to be taken two hours after meals. In cases in which the urine is habitually concentrated and has deposits of urates or uric acid, a dry diet is not well borne. In such cases it is best to allow frequent small meals, four or five in the twenty four hours, with liquids taken two hours after meals. The diet is reduced until the weight of the patient falls to the desired figure, and then kept at the requisite amount to maintain a normal weight and prevent a renewed increase. There should be a great increase in muscular activity by walking, riding, cycling, sports or gymnastics. General and local massage when the abdomen is enlarged, is very useful. Hydrotherapeutic measures as well as carbonic acid gas baths are important. Patients should sleep moderately and not do excessive mental work. The author recommends the use of purgatives, alkalies, etc., only as they are indicated.

Medicolegal.

Rights of Sick Child with Relation to Its Custody.—The Supreme Court of Louisiana holds, in the case of State vs. Jones, where a father sought by habeas corpus proceedings to recover the custody of a child that was about two and a half years of age, weak and sickly from its birth, and which had always been taken care of by its grandmother, that, regarding the family and the right of the father, there remained authority enough in the courts to protect the health and life of the motherless, small, sickly child, by decreeing that it remain with its grandmother, to be taken care of and to receive needful nursing. It says that it might be that, under a very strict and even severe interpretation of the law, a decree should issue authorizing the father to take his child from the care of the grandmother. But that interpretation, in view of the (uncontradicted) testimony of the physician who had attended to the child from its earliest infancy, and who had testified that it would not be safe to take it away from its grandmother, would, to say the least, be hard on the child. The child, under Nature's laws, has some rights, not always to be overlooked. The parent's will is not always supreme. There may a case arise where exceptional parents take it out of the grasp of the law here invoked. The law does not interpose with an iron hand to sever a union essential at the time to the very life of the child. The law should be loved, rather than feared and to this end there are cases in which equity is not to be denied all hearing.

Valid Provision for Contagious Disease Hospital.—The Supreme Judicial Court of Massachusetts holds constitutional, in the case of Manning vs. Bruce, a statute providing that the city of Everett, by its City Council, may take any lands within the limits of the city for the erection of a hospital for the care of persons suffering from contagious diseases. It says that while so far as the statute affects the owner of property taken it is an act in the exercise of the right of eminent domain, it is, nevertheless, in the object ultimately to be reached, an act in the interest of the public health, and, so far as it confers the right to erect and maintain on the land taken a hospital for contagious diseases, it finds its sanction in the general police power subject to the proper exercise of which all property is held. It was not necessary to discuss the right to deal with contagious diseases. Even the right of personal liberty must yield to the measures necessary for the protection of the general health. A man afflicted with smallpox or any other contagious disease dangerous to public health has for the time being lost his right of personal freedom and may be compelled to yield to restraint, carried if necessary even to compulsory isolation. Hospitals must be established and maintained for such persons, and for more than a century cities and towns have been authorized by statute to do this, and, in case of the breaking out of a contagious disease dangerous to the public health, it is made the duty of the proper public officer to provide a hospital or place of reception Such laws, being necessary for the protection of the public health, are wholesome and reasonable, within the meaning of the phrase as used in the constitution, and they violate no constitutional provision Under the general law the city could have erected such a hospital, but it was limited to such land as it could buy, and no doubt this statute was passed not so much to grant it authority to build and maintain a hospital as to enable it to obtain, by the exercise of the right of eminent domain, a site for it Such a hospital is under the supervision of the board of health, and it is not to be assumed in advance that it will be a nuisance, public or private

Rules Applicable to Trials on Question of Insanity—The Supreme Court of Alabama states, in Parrish vs State, a *homicide case, the rules of law applicable to trials on the* question of insanity as follows It is now well settled law and practice that, as to the question of whether insanity exists or not, witnesses, whether expert or non expert, may express their opinions as to the sanity or insanity of a defendant on trial for crime Ford's Case, 71 Ala 385, and other Alabama cases The witness, whether expert or not, must first be shown to be competent or qualified to give an opinion as to the sanity or insanity of the party inquired of The question as to the competency of the witness, whether expert or not, to give an opinion as to the sanity or insanity of the party inquired of, is *a question for the court and not for the jury As to this* question, its decision as to competency will not be revised unless it clearly appears to have been erroneous People vs McCarthy, 115 Cal 255, note on page 733, 38 L R A An expert witness may give an opinion as to the sanity or insanity of an individual, based solely on a hypothetical question, without any personal knowledge or acquaintance with the individual inquired of Gunter vs State, 83 Ala 96, Burt vs State (Tex), 40 S W 1,000, 43 S W 344, 39 L R A 305, and note A non expert can not give an opinion as to the sanity or insanity of the individual inquired of, based in whole or in part on an abstract hypothetical question, but must base his opinion solely on his own personal knowledge, observation, acquaintance, experience, etc, with the individual inquired of Roberts vs Trawick, 13 Ala 68, Burney vs Torrey, 100 Ala 157 Non expert witnesses, to give an opinion as to insanity of a party, must first state the facts claimed to show or indicate an abnormal condition of the mind, but such a witness may give an opinion that the person inquired of was sane by first merely denying generally the existence of any facts showing an abnormal or unnatural state of mind, and without specifying any of such facts Caddell vs State, 129 Ala 65 The hypothetical question propounded to an expert witness should embrace substantially all the facts, where there is no dispute as to the facts on the question of insanity Davis vs State, 35 Ind 496, Webb vs State, 9 Tex App 490, State vs Barber 74 Mo 292 Goodwin vs State, 96 Ind 554 If the evidence is in conflict as to the facts tending to show insanity, the hypothetical question may and should properly embrace only the facts tending to support the particular theory of the respective party, and the opposing party, if desirable, on cross examination of the witness, may propound questions to him embracing the facts which tend to support his theory Grubb vs *State, 117 Ind 277, People vs Hill*, 116 Cal 562 The hypothetical question to an expert witness should not contain matter as to which there is no evidence tending to support However, technical accuracy is not required as to this It is for the jury to scrutinize the evidence and to determine what part of the question is true, or supported by the evidence, and what is not and the adverse party may ask for instructions that the jury do not accept the facts as true but that they should determine whether such facts were in evidence, and that they might disregard the opinion of the expert if not based on facts in evidence Grand Lodge vs Wieting, 168 Ill 408, Forsyth vs Doolittle, 120 U S 76 Expert witnesses may be cross examined and their opinion obtained, based on other states of facts, assumed by the party examining them to have been proven on a hypothetical case, and they may be cross examined on purely imaginary and abstract questions Such questions are not only permissible in order to get the opinion of the expert witness on all the possible theories of the case, but they are allowable also to test the value and accuracy of *the opinion of the witness himself* Clark vs State, 12 Ohio, 483, People vs Sutton, 73 Cal 243 The opinions of expert witnesses as to insanity are not conclusive on the jury They are to be weighed like other evidence Such evidence is intended to aid the jury, and its value depends largely on the intelligence, experience, honesty and impartiality of the witnesses, and their opportunity of knowing the traits and habits of the person whose mind is under investigation Its weight is solely a question for the jury They may reject it all, though it is without conflict McAllister vs State, 17 Ala 434, Williams vs State, 50 Ark 511, People vs Barberi, 47 N Y *Supp* 168 *Insanity can not be proven by reputation*, notoriety or hearsay Kimbrell vs State, 130 Ala 40, 44, 16 Am & Eng Ency of Law (2d Ed) 612 In the trial of a homicide case, where the statutory plea of not guilty by reason of insanity is interposed, the burden of proof is on the defendant to establish the plea to the reasonable satisfaction of the jury by a preponderance of the evidence, and a reasonable doubt is not sufficient to acquit the defendant under this plea

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia

August 13

1 *The Surgery of the Female Urethra Ely Van De Warker
2 Fistula in Ano George G Ross
3 Report of Experiments to Determine Whether Plaster of Paris Contracts or Expands in Setting J T Rugh
4 *The Roentgen Ray in Myelogenous Leukemia George H Evans
5 *Case of Acute Suppurative Pancreatitis Miles F Porter
6 A Plea for the More General Use of Ether with Description of a Drop Method of Administration B F Stevens

1 —See abstract in The Journal, xlii, p 1584

4 **Myelogenous Leukemia** —Evans presents a history of three cases of myelogenous leukemia, and calls attention to the treatment which is being used in two of them These two patients were exposed to Rontgen rays emanating from a medium high vacuum tube at an average distance of ten inches for from fifteen to twenty minutes daily A steady and progressive diminution in the size of the spleen was noticeable from the first One of the patients received 125 treatments, averaging 17½ minutes for each exposure There were four intervals when treatment was suspended for ten, two, five and seven days respectively Aside from a slight reddening of the skin over the exposed part on a few occasions, nothing but the characteristic bronzing was noticed At one time there was a decided increase, both relative and actual, in leucocytes, especially the myelocytes, together with an increase in the size of the spleen Just preceding the time this was noticed a number of exposures had been made with a tube of a lower vacuum and consequently producing rays of less penetration As soon as this error was corrected the patient resumed her previous condition Her last blood count showed 3 680,000 red cells, leucocytes 88,000, hemoglobin 70 per cent. The proportions of the various kinds of leucocytes were about normal The second case received in all 61 treatments After the thirty sixth treatment the spleen disappeared beneath the costal margin, and by the forty fifth treatment was normal in size and position The general condition of the patient was excellent The last blood count showed 3 600,000 red cells, leucocytes 12 600, hemoglobin 80 per cent The proportion of leucocytes was about normal, but as in the previous case, a large number of myelocytes, 12 and 21 per cent respectively, were found Speaking of the histogenesis of leucocytes, Evans says that the large mononuclear leucocyte is the mother cell, *ordinarily* capable of further

differentiation into either the ordinary basophilic cell or into a neutrophilic myelocyte The two forms of leukemia, lymphatic and myelogenous, are closely associated, and, perhaps, are forms or stages of the same disease The lymphocytes, he thinks are formed in the lymphoid tissue of the bone marrow, and the myelocytes, which also are formed in the bone marrow are the parent cells of the polymorphonuclear neutrophiles In myelogenous leukemia, myelocytes are cast into the circulation probably because of the increased activity of the myeloid tissue of the marrow, the only tissue primarily affected in this disease

5 **Acute Suppurative Pancreatitis**—Porter describes a case of acute suppurative pancreatitis in which death followed sixty six hours after the onset of the illness The diagnosis rested between pancreatitis, ruptured ectopic gestation obstruction of the vessels of the mesentery and obstruction of the bowels It was finally concluded that a positive diagnosis was not possible, and that the probabilities were in favor of a ruptured tubal pregnancy Porter advised immediate operation but other consultants in the case did not agree with him and no operation was performed Postmortem examination revealed the abdomen bathed in pus The head of the pancreas was about one half destroyed The uterus and appendages the spleen and other abdominal viscera were normal In favor of the diagnosis of ruptured tubal pregnancy were the history of the miscarriage, of pain and tenderness in the pelvis, together with the fact that at the onset the pain was greatest in the pelvis Four or five weeks prior to the last illness the patient had been having boils, and it is highly probable that the infection was carried to the pancreas by the blood stream from one of the boils Unquestionably many of these patients will die even when operated on early, but the operation will not kill them and gives the best chance for recovery in all cases in fact the only one in most cases

Medical News, New York.

August 13

7 Report of a Case of Ruptured Ectopic Gestation John W Coe
8 Some Interesting Obstetric Experiences. J J Gurney Williams
9 *Chronic Mastitis and Diffuse Fibroadenoma of Breast D Farquhar Curtis and F C Wood
10 Hereditary Syphilis Howard S Kinne
11 *Difficult Cases of Infant Feeding T W Kilmer
12 Transitions of Obsessions to Delusions Report of Two Cases Alfred Gordon
13 *Moot Points in the Treatment of Fractures Martin W Ware

9 **Chronic Mastitis**—Curtis and Wood review chronic mastitis and diffuse fibroadenoma of breast, two conditions which can only be distinguished by careful microscopic examination, the diagnosis, therefore, being impossible before their removal They are so frequently followed by the development of cancer that they can be considered preliminary stages of that dangerous neoplasm Up to the present time there is no absolutely reliable sign to distinguish between these two conditions and carcinoma before one of the cardinal signs of malignancy makes its appearance The surgeon should not wait for any further development after having made the diagnosis and action should be taken at once With reference to the treatment these cases can be divided into three classes 1 Moderate induration limited or general 2 Marked induration, limited to one quarter of the breast or less 3 Marked induration general Curtis reports a number of cases in point, and the article is closed by Wood with a discussion of the pathology of these breast indurations

11 **Infant Feeding**—Kilmer discusses the necessity of feeding each infant in accordance with the demands of its growth and the capabilities of its digestive system Large, fat, apparently healthy looking babies are not always such Too much carbohydrates, fats and proteids will fatten up a baby wonderfully, but ere long the crash comes, and then the real trouble begins The author styles condensed milk as "one of the worst curses on a community of babies" Still he goes on to say, it is unquestionably one of the best foods to switch off on if baby's stomach becomes a little upset from too much proteid Often it helps to tide many a baby over a critical heated period The artificial feeding of babies is not the simple and easy problem which some seem to regard it Every baby is a law unto itself and should be fed as an individual The general public should be taught that they should not and can not feed the rising generation on "any old thing" and in any way they choose

13 **The Treatment of Fractures.**—Ware gives the results of his study of 3,000 cases of fractures, commenting on the methods of diagnosis and the apparatus to be used in treatment, the best of which, he says, are the simplest materials, such as plaster of paris, pasteboard, cigar box wood and non absorbable cotton A number of illustrative cases are cited, but the author presents nothing new

Boston Medical and Surgical Journal

August 11

14 Operations on the Stomach with Report of Cases (To be continued) John C Munro
15 *Malpositions of the Uterus, Their Causes and Treatment. D J Brown
16 *Subperiosteal Fractures of the Humerus in Children J S Stone
17 The Physical Relationship of Finsen Light Roentgen Rays and Radioactivity W C Sabine

15 **Malpositions of the Uterus.**—Brown believes that the uterus remains in its normal position by the concerted action of its several ligaments and the pelvic fascia, which are mutually interdependent for their integrity and action He does not believe that the perineum is responsible for the support of the uterus and vagina He discusses the causes of retrodeviation, both in virgins and in parous women, and follows Krusen's classification The symptoms and treatment of the various malpositions are considered in brief For the treatment of laxity of the uterosacral ligaments, Brown believes the Goelet operation to be a step in the right direction In anteflexion the Dudley operation is the best Excessive mobility of the uterus may be overcome by the wearing of a pessary of a cervicovaginal fixation For prolapse and procidentia he favors the Byford operation When a hysterectomy is decided on the vaginal route is preferable, uniting the anterior and posterior peritoneal margins, and then an end to-end approximation of the stumps of the broad ligaments forms a perfect support

16 **Subperiosteal Fractures of the Humerus in Children.**—Stone describes five cases which illustrate the dangers of overlooking fractures in children, and calls particular attention to the symptoms by which subperiosteal fractures of the surgical neck of the humerus may be diagnosed in the absence of the usual signs of fracture When, after a fall on the arm or shoulder, children are unable to abduct the arm, but present none of the other signs of fracture or dislocation, and are able to move the arm in other directions, most careful examination should be made to determine localized tenderness anteriorly just below the head of the humerus, together with a slight irregularity in the contour of the bone at the same point These signs are sufficient to establish a diagnosis of fracture of the surgical neck and further attempts by rough handling to secure crepitus or mobility should be deterred from

Medical Record, New York

August 13

18 *The Success of Physical Remedies in Pulmonary Phthisis as an Index of Their Value in Other Chronic Diseases Simon Baruch
19 Cerebrospinal Meningitis Diagnosis, Prognosis and Treatment. Louis Fischer
20 *Associated Movements of the Upper Eyelid and Lower Jaw Edward B Coburn.
21 *Acute Cholecystitis Simulating Appendicitis Arthur L Chute
22 Treatment of Syphilis by Hypodermic Injection of Mercury Lawrence T Royster
23 *A New Pathogenic Throat Organism B H Stone

18 **Physical Remedies in Pulmonary Phthisis.**—Baruch summarizes his views on the subject of phthisis therapy in general, and points out that phthisis may be regarded as an illustration of what can be acomplished by systematic methodical management in all chronic diseases Constant, unremitting attention to every detail of the patient's mode of life, his environment food, drink, rest, exercise, baths, clothing and occupation is the only road to a favorable result Hydrotherapy as applied to the treatment of consumption is discussed in full

The indications are, 1, to increase blood cells and hematosis, 2, to deepen respiration, 3, to enhance nutrition, 4, to eliminate excretory products, 5, to remove stasis, 6, to reduce temperature Success in the use of hydrotherapeutic measures is dependent on a full and thorough knowledge of their application The most useful general method is the one which aids in gradually accustoming the skin to lower temperature, greater pressure on mechanical force, and larger quantities of water—in all stages In febrile cases low temperature applications are contraindicated. Here the ablution or a half bath, with water not below 80, is indicated The author's method is as follows

> After a thorough cleansing with soap and warm water, a day is allowed to elapse The patient is wrapped snugly in a thin blanket like a mummy (unless rectal temperature is above 100) He is allowed to lie for half an hour or longer unless he perspires In afebrile cases it may be necessary to cover with additional blankets the object being to fill the cutaneous arterioles preparatory to being treated with water The face is bathed with water at 50 F Now the blanket is opened over the chest and abdomen and these parts are rapidly and well rubbed with water at 75 F After drying the patient is turned on the abdomen and the back is similarly treated The extremities are not treated Patient is gently dried dressed and if afebrile ordered into the open air for a gentle walk Febrile cases are returned to bed This treatment is repeated daily with reduction of two degrees of water temperature at each ablution until 60 F are reached Now the ablution is performed just as the patient emerges warm from the bed, as follows Standing in a foot tub containing sufficient water at 100 F to cover the feet to the malleoli he receives a rapid friction bath with water at 90 omitting the upper extremities, after which he is dried and sent into the open air if his rectal temperature is below 100 F The water temperature is reduced daily two or five degrees until 60 F are reached Now the ablution is replaced by affusion which consists of pouring of four basinfuls of water at 90 F, previously held in readiness, over the body The patient standing in a foot tub having his feet covered with water at 100 water is dipped from a vessel previously in readiness and poured with force over each shoulder and back and chest Rapid drying while standing on a warm towel completes the procedure Beginning with a water temperature at 90, it is daily reduced a few degrees until 60 or even 50 are reached This refreshing process may be repeated daily In febrile cases the water temperature should not go below 65

20 **Associated Movements of the Upper Eyelid and Lower Jaw**—Coburn discusses this subject reports a case and reviews the literature The relationship of this condition to chronic nuclear palsy is suggested by the following facts 1 This condition is not always congenital, cases have been reported in which it appeared somewhat late in life 2 This disease is not always stationary, in some it has increased, in others diminished 3 Although usually unilateral, it is sometimes double, especially the ptosis 4 The lack of development of the face in some cases points to trophic disturbances in the seventh nerve, a condition often accompanying the infantile form of nuclear palsy There seems to be very little that can be done to relieve this condition Operations for ptosis have been performed successfuly on these cases, and there seems to be no objection to them as long as the operation is not so radical as to cause permanent exposure of the eyeball

21 **Acute Cholecystitis Simulating Appendicitis.**—Chute reports two cases of this kind, and says that the greater number of instances are seen in that group of cases in which the inflamed gall bladder is in its normal position, but in which pain and tenderness, in the presence of distention and rigidity, are referred to the appendix region The second group of cases is made up of those cases in which an inflamed gall bladder reaches into the iliac fossa, either through great enlargement or through displacements Here the error in diagnosis is the result of finding a painful tender mass in the region of the appendix This type is less common than the first Both of the author's cases belonged to the first type In dealing with supposed cases of either of these two most common intra abdominal inflammations, one should always bear in mind the closeness with which they may simulate each other When, during an operation, the state of the organ investigated does not satisfactorily account for the patient's condition, the other organ should always be examined The lack of this precaution has, in at least one recorded case, led to the removal of a slightly diseased appendix, while, as the autopsy showed, the symptoms had been caused by a gangrenous gall bladder which had not been discovered

23 **New Pathogenic Throat Organism**—Stone made a bacteriologic study of 81 cases of an acute inflammatory condition of the throat, accompanied by a severe but not fatal toxemia, lasting from twenty four to forty eight hours The cases are usually ushered in with chilliness, pain in the head and limbs, and a coryza, often accompanied by an unusal amount of sneezing In nearly all of these cases the tonsils were more or less swollen, the soft palate and uvula edematous, and in many there has been a distinct false membrane, white in color and very tenacious These cases have been diagnosed as diphtheria, grippe and simple cold The remarkable fact about these cases has been the severe toxemia coming on suddenly and lasting only a short time, and the universal appearance in the throat of a peculiar diplococcus The same organism has been met with in several cases of typical follicular tonsillitis and in the throats of three cases of scarlet fever and in many cases of irritable throats following diphtheria The organism occurs in the secretions and exudations of the inflamed mucous membrane It is a diplococcus with its adjacent sides slightly flattened One of the pair often is smaller than the other They vary from one half to one micron in diameter They stain redly with Loeffler's stain and fuchsin, and by Gram's method, and show polar granules with the first stain only They possess no flagella, spores or demonstrable capsule. Almost no growth occurs in gelatin, and there is no liquefaction On agar plates small, white, raised and very tenacious colonies appear after twenty four hours incubation. The growth on agar streak cultures is the same, except that the colonies coalesce along the line of the needle tract, and the result is a more or less continuous nodular growth On blood serum the growth is luxuriant, forming a viscid, extremely tenacious skin over the whole surface of the medium The growth on potato is similar to this, only less luxuriant In boullion it forms a white, stringy sediment, sticking slightly to the bottom of the tube It does not change the reaction of the media, does not form indol or gas or acid in glucose, lactose or saccharose solution It converts nitrates into nitrites It is a facultative anerobe growing best at the body temperature, with a thermal death point between 60 and 70 C The writer is thoroughly convinced that this organism stands as the etiologic factor in the cases studied even though efforts to reproduce its peculiar lesions on the mucous membranes of laboratory animals thus far have been unsuccessful It has been found constantly present in these cases in almost pure cultures, and has been isolated, while no other organisms are constantly found It is toxic for laboratory animals, producing on scirrhus membrane an exudate analogous to that produced in the throat, from which exudate it has been recovered in pure culture It produces a soluble toxin sufficiently virulent to kill animals Its blood serum growth has a peculiar viscid character, suggesting the extreme viscidity of its exudate in the throat

New York Medical Journal.

August 18

24 *Aberrant Thyroid Tissue. Jeremiah S Ferguson
25 The best Method of Operating to Affect a Radical Cure of Senile Hypertrophy of the Prostate Gland (To be continued) Orville Horwitz
26 *The Suppression of Rotary Vertigo, Its Bearing on the Prevention and Cure of Seasickness J Leonard Corning
27 Technic in General Anesthesia J D Sternberg
28 *Is Milk a Factor in the Spread of Tuberculosis? J O Cobb
29 Morphinism Its Symptomatology Charles J Douglas
30 *Adenoids in Infants Herman Jarecky

24 **Aberrant Thyroid Tissue**—Ferguson discusses the relation of aberrant thyroid tissue to intratracheal growths, and describes one specimen which he had the opportunity of studying The literature on the subject is reviewed very carefully

26 **Suppression of Rotary Vertigo**—Corning presents the results of a series of experiments on individuals in whom vertigo had been induced artificially by means of a revolving chair invented by the author Various drugs were tried to prevent and to relieve the symptoms of the vertigo, but those of most value were found to be hyoscin and opium or morphin Hyoscin hydrobromid, in doses of 1/150 gr , and opium, in ½ gr doses, was found to be efficient Of course, the dose must be varied somewhat according to individual susceptibility These remedies produce a central as well as peripheral torpidity, so that the subject will remain proof against both giddiness and nausea for from three to four hours, when the administration of a tablet consisting of morphin, gr 1/6, extract of cannabis

indica, gr ¼, nitroglycerin, gr 1/300, strychnin sulphate, gr 1/60, resorcin, gr 1, cocain hydrochlorid, gr 1/6, was sufficient to produce further immunity for a like period This treatment was especially valuable in the prevention of sea sickness

28 **Milk and Tuberculosis**—Cobb reviews the data at hand with reference to milk being a factor in the spread of tuberculosis, and arrives at the conclusion that its etiologic importance is very much over estimated, because in those countries where milk is used but little or not at all, and in others where it is invariably boiled before using tuberculosis is as prevalent as in countries where milk is used largely

30 **Adenoids in Infants.**—Jarecky emphasizes the fact that adenoids exist in infants and that an early operation saves the patient from the defects caused by ignoring their presence In making a diagnosis of adenoids in infants we must naturally depend to a great extent on inability to nurse properly and noisy mouth breathing Five cases are cited and the usual method of treatment is described

Cincinnati Lancet Clinic.

August 13

31 Rectal Valves with a Report of Operative Cases Louis J Krouse
32 Diabetes Mellitus with Especial Reference to Etiology George F Zinninger
33 Treatment of Adenoids by the General Practitioner W D McKinley

St Louis Medical Review

August 6

34 Secondary Abdominal Operations Lewis S McMurtry

Chicago Medical Recorder

July

35 Report of a Case of Perithelial Angiosarcoma of Left Arm with Excision of Outer Two thirds of Clavicle Scapula and Arm J C Hepburn
36 The Paraffin Injection Treatment for the Correction of Deformities. Charles J Whalen
37 Large Multilocular Ovarian Cyst. George W Newton
38 *Radical Cure of Inguinal Hernia L L McArthur
39 *Osteotomy in Angular Ankylosis of Hip-joint. Frederick Mueller
40 Tuberculosis of Nervous System Julius Grinker
41 Suppuration of All the Facial Sinuses and Killian's Operation. Herman Stolte
42 Nose and Ear Cases J Hollinger
43 Report of Two Cases of Cholelithiasis with Demonstration of Specimens. Max E Bloch

38—This article has appeared elsewhere See THE JOURNAL of July 30, ¶55, p 354

39 **Osteotomy in Ankylosis of the Hip**—Mueller considers osteotomy as the most important step toward obtaining a definite result in angular ankylosis of the hip joint, provided, that the ends of the severed bone will knit together nicely and in the desired position To secure the first condition, it is necessary that no tissues become interposed between the ends of the bones, and calls for exact approximation The second point calls for securing this result and for excluding all changes of position due to muscular action or tension In all cases of distinct abduction ankylosis, subtrochanteric osteotomy is the operation of choice, and should be performed as high as possible In flexion ankylosis one group of flexors is tenotomized, while another group must be stretched, in adduction ankylosis the action of the adductors should be eliminated in a similar way The same operation ought to be applied to the muscles, acting as abductors in abduction ankylosis A cast properly applied in extension fixes the ends of the bone, severed by the osteotomy in an absolutely safe way without allowing any displacement, and also permits the patient to walk around within a few days after operation Mueller recommends the so called "circumference chisel" designed by Reiner, which is especially constructed for the purpose of osteotomizing the distal end of the femur in genu valgum, as the most useful instrument for the performance of osteotomy He uses an instrument which is a simplification of Reiner's chisel It is shaped like a chisel with an oblique edge, having a protruding thorn on the shorter side. If the unprotected edge of the chisel is placed on the bone, a few strokes with the mallet will drive it in until the thorn stops its deeper intrusion All further strokes drive the osteotome over the circumference of the bone Severing the corticalis until only a narrow bridge is left, this and the rest of the spongy substance is very easily broken, and the rough surfaces of this artificial fracture act as a means of preventing dislocation of the ends of the bone Another advantage of this osteotome is the possibility of working with it beneath the periosteum The periosteum is divided by a longitudinal cut, and is lifted up by an elevatorium in both directions around the circumference of the bone Through this slit the osteotome is introduced, and after the osteotomy has been performed the wound in the bones is protected by a mantel of periosteum, preventing any interposition of other tissue Convenience and rapidity are the advantages which the circumference chisel possesses

Columbus Medical Journal.

July

44 Military Medical Journalism at the Beginning of the Twentieth Century James Evelyn Pilcher
45 *The Differential Diagnosis of the Chronic Specific Diseases of the Skin Herbert O Collins
46 *Earache F L Stillman
47 What May Be Accomplished by the Organized Profession Toward Improving the Ohio State Medical Institutions A. P Ohlmacher
48 The Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme

45 **Differential Diagnosis of Chronic Skin Diseases**—Collins believes that the difficulty of diagnosing skin lesions is usually overestimated and is due more to the lack of systematic study of the case in hand than to the complexity of the symptoms presented The rarer conditions are encountered so seldom that they need hardly be considered by any but dermatologists In examining a case of disease of the skin special attention should be directed to four points 1 The particular region of the body over which the lesions are distributed 2 The arrangement of the lesions, as to whether they are regular or irregular, circular, bilateral, symmetrical, etc 3 The lesions themselves should be studied in detail and classified 4 The presence or absence of constitutional symptoms should be inquired into, and if present their nature noted The following points are of importance in arriving at a diagnosis Bilateral symmetrical eruptions are either constitutional in origin or are due to the same local causes on both sides of the body Diseases due to parasites are usually found on the flexor sides of the limbs or on the exposed parts of the body The more chronic the disease the deeper the color, and, *vice versa*, the more vivid the color the more acute the disease. Scales, ulcers and scars are found in chronic diseases Single ulcers are found in one of four conditions—syphilis, trophic disturbances, traumatism and malignant disease. When occurring on the face, ulcers are almost invariably due to cancer, syphilis or tuberculosis Sometimes the odor is of some diagnostic value The syphilitic ulcer smells rancid, favus has a mousy odor, varicose ulcers are said to smell sweet, neurotic ulcers and leprosy, nauseous and foul, while the rodent ulcer has the odor of putrid meat Many chronic diseases of the skin are but the local manifestations of a constitutional condition and are characterized by the formation of inflammatory granulation tubercles The most familiar types are syphilis, tuberculosis, leprosy, glanders and actinomycosis The author continues his article by a very full discussion of the syphilitic and tubercular skin eruptions

46 **Earache.**—The acute engorgement of the vessels of the mucous membrane of the middle ear and the vessels of the contiguous regions causes pain by stretching of and pressure against the local nerves of sensation This is technically called otalgia, and is known popularly as earache Stillman discusses this very common condition, and calls attention to the necessity of a more thorough examination into the causes of earache. Some of these causes are affections of the pinna, especially inflammatory in character, perichronditis erysipelas, or an abscess on the auricle, the pressure exerted by the riding bow of glasses a circumscribed or diffuse purulent inflammation in the external meatus a diffuse inflammation of the skin or periosteum of the meatus during the course of middle ear abscess, indicating a blocking up of the mastoid an

tium, a foreign body in the ear, neoplasm, neuralgia, acute otitis media and acute otitis media purulenta and its sequela, and the exacerbations and sequelæ of chronic otitis media purulenta In the earaches due to some of these causes the diagnosis can be made quite readily, but in others we are likely to be led astray, especially in the case of children and those adults who are unable to locate definitely the seat of pain The only way to find out positively what produces the otalgia is to look at the parts, making a routine examination All that is needed in most cases is a flat wicked lamp, a metal or hard rubber cone speculum and a short focal distance head mirror For operative work under an anesthetic, it will be found convenient to have a forehead electric lamp Whenever possible, the case should be sent to the specialist, who is prepared to do everything, but many of these cases can not or will not go to the specialist, and it devolves on the general practitioner to make an examination, and he should be prepared to do so

Wisconsin Medical Journal, Milwaukee

July

49 *Address State Medical Society of Wisconsin F L Walbridge
50 *Borderline Between Medicine and Surgery J C Wilson
51 *Traumatic Asphyxia F Shimonek
52 Arterial Sclerosis J S Walbridge

49 —See abstract in The Journal of July 2, p 65

50 —Ibid, p 66

51 **Traumatic Asphyxia** —Another case of this kind is published by Shimonek, only a few cases in which recovery took place are recorded in the literature The patient, a robust young man, a house-mover by occupation, was pressed to the ground by a large piece of timber falling on his back while he was in a prone position When first seen by the author the patient was unconscious, breathless, his eyes were intensely congested and protruded from the orbits, his lips were swollen, the mouth open, and from it protruded his greatly swollen and black tongue The pulse was slow and strong, the heart was beating against the chest wall with great vigor The median basilic vein was immediately opened in order to relieve the congested right heart this procedure being deemed more necessary than the induction of artificial respiration The blood flowed in a large, black stream, and by the time one quart had escaped respiration commenced In the course of about an hour the circulation became equalized, and the patient was fully conscious With the exception of a little cough and some mucous râles in his chest, his health was fully restored, and he resumed work in a few days Shimonek emphasizes the necessity of the immediate performance of venesection in traumatic asphyxia Artificial respiration and the inhalation of oxygen should be used as auxiliaries only and should not be relied on to affect the cure After the great pressure in the venous system is reduced by venesection, then—if it seems necessary—both of the methods might be utilized advantageously

Detroit Medical Journal

July

53 *Ureteral Calculus Operation Cure J B Kennedy
54 *Pruritus Ani W L Dickinson
55 *Chronic Irritation in the Etiology of Carcinoma H S Olney
56 Venereal Statistics in Michigan Albert E Carrier

53 **Ureteral Calculus** —Kennedy comments on the uncertainty of making a diagnosis of ureteral calculus, and cites a case in point, in which the calculus was located in the left ureter, a short distance above the bladder The patient had had indefinite symptoms, which he called "side ache," for six years before he consented to an operation The first incision commenced at the anterior extremity of the last false rib, proceeding downward to the ileum, following the line of the crista ilii, and terminating at the superior anterior spinous process of that bone The abdominal muscles were divided to the extent of about an inch, close to the superior anterior spinous process, down to the peritoneum The ureter was lifted up and the stone removed through a longitudinal incision This incision was closed with a continuous fine catgut suture, and the incision in the abdominal wall was closed by three rows of sutures The patient had a complete and uneventful recovery The stone, of the mulberry variety, weighed exactly 58 grains

54 **Pruritus Ani** —This subject is discussed by Dickinson, who emphasizes the importance of searching for the cause of the irritation and not merely to limit the treatment to local applications The prophylactic treatment, too, is of importance and should be insisted on Opium and morphin are contraindicated, even when sleeplessness is very marked and causes the patient much discomfort, because on the day following their use the itching is greatly increased To produce sleep the bromids, chloral hydrate, sulphonal, trional and phenacetin give the best results Hot water compresses, cocain lotion or ice bags applied locally sometimes afford temporary relief To allay the intense itching a lotion composed of carbolic acid, 30 drops, and olive oil, 1 ounce, may be applied twice daily If there is much thickening of the integument and an entire loss of pigment, pure carbolic acid or tincture of iodin can be used This will produce considerable soreness for a few days, and when healing is taking place, any remaining spots of thickened integument should be painted Citrin ointment, well rubbed into the integument, sometimes gives better relief than tincture of iodin or carbolic acid

55 **Chronic Irritation and Carcinoma** —The effect of chronic irritation in the causation of carcinoma is discussed by Olney whose observations lead him to draw the following conclusions 1 It is not necessary to presuppose the existence of embryonic inclusions at the location of the tumor formation, but the carcinoma may develop from the tissues normally present 2 Chronic irritation, mechanical or chemical produces a cellular proliferation, sometimes giving rise to a papilloma or adenoma, and, when resistance of the opposing tissues is slight or the irritation long continued, to a typical carcinoma 3 Parasites, if present in carcinomatous tissues have no more etiologic significance than any other form of chronic irritation and hence there are no specific organisms of carcinoma

Memphis Medical Monthly

July

57 *Combined Extra and Intra-uterine Pregnancy St Cloud Cooper
58 Typhoid Fever John A. Blackmon
59 The Diagnosis of Insanity B Frank Turner
60 Internal Antisepsis in Typhoid Fever J A Crook
61 *Combined Typhoid and Malarial Fever J I McGehee
62 Gunshot Wound of the Abdomen M Goltman
63 Faith and Suggestion in the Practice of Medicine D M Hall
64 The Cure of Consumption by Subcutaneous Injections of Oil and Its Digestion by the White Globules of the Blood Thomas Bassett Keyes
65 Case of Strangulated Hernia, Operation Recovery J D Southard

57 **Combined Extra- and Intra-Uterine Pregnancy** —Cooper reports a case of this kind on which he operated and found an enlarged uterus with a distended right tube The tube was dark and mottled, and seemed on the point of bursting The omentum was adherent Some old dark clots were found in the cul de sac The tube and ovary were tied off and removed The uterus was not handled The abdominal cavity was left full of hot salt solution, and the wound closed with catgut and silkworm gut suture The patient recovered from the operation, but twenty one days afterward she expelled a live four months fetus Septic infection supervened and she died of septic peritonitis

61 **Combined Typhoid and Malarial Fever** —A case is reported by McGehee showing that it is possible to have typhoid and malarial infection in the same patient at the same time More systematic blood examinations of cases with irregular temperature curves would, perhaps, reveal the fact that the combination of the two diseases is more common in the southern states than is believed A short time previous to the onset of the typhoid, in the case reported, probably during the prodromal period, there was a distinct malarial infection, as evidenced by the history, the clinical symptoms and the blood examination It is a question whether this was a fresh infection or one carried over from the previous year It yielded promptly to quinin the parasites disappeared from the blood, followed by typhoid of a typical type, at the end of which there was another

marked manifestation of the malarial infection, the reappearance of the parasites in the peripheral blood yielding promptly to quinin, followed by mild intercurrent relapse, characterized by remittent fever, return of abdominal symptoms, etc.

Medical Examiner and Practitioner, New York.

July

66 *The Family Physician as a Life Insurance Examiner. C. Lyman Greene.
67 The Moral Hazard in Life Insurance. John L. Davis.
68 *Early Recognition of Insanity in Life Insurance Examinations. Richard Dewey.
69 Cancer. Further Observations Regarding Theory and Facts as to the Origin of Cancer and Its Bearing on Life Insurance. I. Holovitchiner.
70 How Far Does the Moderate Use of Alcohol Affect Longevity? T. D. Crothers.
71 The Accurate Estimation of Pulse Tension in Life Insurance. Henry W. Cook.
72 Cancer. Its Origin and Successful Treatment with Organotherapeutic Measures. J. Leffingwell Hatch.

66. **Family Physician as a Life Insurance Examiner.**—Greene deprecates the conditions existing at present which prohibit the family physician from giving any information as to the physical condition of an applicant for insurance, inasmuch as it is not fair to the insurance company toward whom the physician occupies a position as its trusted and confidential agent. He is in duty bound to see that the company receives the information vital to its interests or to decline the risk outright. The physician should keep his relationship with his patients separate and distinct from his duties as an insurance examiner. In the one case he owes his patient medical service, in the other his primary obligation is to the company. The writer believes that many examiners never take the applicant's temperature and never make a detailed analysis of the urine. This is partly due to carelessness on the part of the examiner and the willful disregard to the company's instructions. On the other hand the insurance companies deserve censure. First because they have not made the physician understand that they demand thorough and careful examinations, and that they will support and protect good men in the performance of their duties. Second, because in many companies the medical report is reviewed and forwarded by the agent. Third, because a few companies do not absolutely protect the examiner in confidential communication.

68. **Insanity and Life Insurance.**—Dewey emphasizes the importance of early recognition of insanity in life insurance examination. He is convinced that many cases receive insurance while in the prodromal or incipent stage of insanity. This is due largely to the fact that little or no instruction is given in mental medicine in the medical schools, and, therefore, otherwise able and well informed practitioners and examiners for insurance companies are often "all at sea." The family history of the applicant should be gone into very carefully and thoroughly. Causes of death, such as "nervous prostration" or "nervous breakdown" from overwork or overstudy may generally be taken as a euphemism for insanity. Suicide as a cause of death should put the examiner on his guard, although it should not be taken as a positive evidence of insanity. The investigation should include inquiry into all serious illnesses and periods of incapacity for business and also as to treatment in any institution. Any marked mental change without adequate external cause should be regarded with suspicion. Neurasthenia, hysteria, hypochondria, may be early stages of insanity.

Archives of Pediatrics, New York

July

73 The Influence of American Pediatric Societies in Promoting the Welfare of American Children. Augustus Caille.
74 *Case of Intussusception with Cure by Sloughing. Irving M. Snow.
75 Status Lymphaticus, with Report of Cases. Robert A. Blechele.
76 Two Cases of Congenital Dislocation of the Shoulder Joint. Frank F. Peckham.
77 *Case of Acute Delirium in a Seven-year-old Child Probably Caused by Atropin Poisoning. I. A. Abt.

74. **Intussusception Cured by Sloughing.**—Snow reports a case of subacute intussusception occurring in a baby seven months old. The duration of the illness was sixteen days. The symptoms simulated an acute attack of ileocolitis. On the sixteenth day there was protrusion from the anus of a mass looking like ragged membrane, measuring one and one-half inches long and three-quarters of an inch wide, which could not be replaced by moderate pressure. A rectal examination showed that the mass traversed the rectum and emerged from the sigmoid flexure. The protruding tissue was a necrotic intestine, the result of intussusception. The case was operated on and six inches of the necrotic bowel protruding beyond the sphincter were removed by ligature. The baby recovered completely without any untoward result.

77. **Acute Delirium in a Seven-Year-Old Child.**—Abt reports a case of enuresis nocturna in a seven-year-old child which was followed by an acute delirium, due probably to atropin poisoning. The facts in favor of this supposition were the history of the continuous use of atropin, dilatation of the pupils, dizziness, blushing or flushing noticed for several days prior to the onset of the delirium and the delirium itself. The pulse continued normal in quality and rate, the respirations were not much increased, two unusual features in atropin poisoning. That the child continued apparently well until of a sudden the delirium developed is an unusual manifestation in atropin poisoning. For a period of three and one-half months the patient had been taking 1/200 gr. of atropin twice a day.

The Post Graduate, New York

July

78 *Intra-uterine Exploration for Diagnostic Purposes. Abram Brothers.
79 *Pancreatic Disease and the General Practitioner. Thomas E. Satterthwaite.
80 *Amblyopia from Disease of the Optic Nerve (Retrobulbar Neuritis). Its Treatment by Hypodermic Injections of Strychnin. D. B. St. John Roosa.
81 Is There a Biologic Method of Differentiating Human and Animal Blood by Means of Precipitins. A. Wassermann.
82 Common Deformities of the Spine. Henry Ling Taylor.

78. **Intra-Uterine Exploration for Diagnostic Purposes.**—The value of intrauterine exploration for diagnostic purposes is attested by Brothers. He considers the sound, the curette, the placental forceps and palpation as means to this end. The dangers connected with the passing of the sound into the uterus are, 1, interrupting a possible pregnancy, 2, exciting an intrauterine inflammation or pelvic peritonitis, 3, introducing sepsis into the uterine interior with resulting suppurative processes in the Fallopian tubes, and, 4, perforation of the uterine wall. The exceptional indications which justify the use of this instrument are, 1, patency of the internal and external os, 2, patency of the uterine interior, 3, relation of uterus to a tumor, 4, presence of an intrauterine polyp or a submucous fibroid, 5, determination of the size of an undeveloped or hyperinvoluted uterus. Constriction at the internal os is one of the most frequent causes of dysmenorrhea and sterility and can only be positively established by resort to the uterine sound. In a few instances sterility has been cured as a result of the examination. Pelvic tumors can not always be clearly differentiated from the uterus without the aid of a sound. The chief danger from the use of the curette is perforation. There may be a persistence of pelvic peritonitis, or agglutination of the raw surfaces of the uterus with a complete obliteration of the uterine cavity. The contraindications to curettage are pelvic inflammation and ectopic gestation. The curette gives the most precise information concerning the structure of the uterine interior. The scrapings, examined under the microscope, will reveal the condition present. The placental forceps possesses combined diagnostic and therapeutic qualities. Ordinarily, however, when this instrument is used the diagnosis has usually been fairly established by other means. The placental forceps must be used cautiously in the puerperal uterus, a few cases are on record in which the operator perforated the uterine wall and brought down omentum or a coil of intestine. Examination of the uterine interior with the finger is a very valuable method, although it is not resorted to as often as is desirable. The co-existence of perimetric or pelvic peritonitis is a serious contraindication to intrauterine palpation. The small uterus offers an insuperable obstacle to this method of examination. In all cases preliminary dilatation of the cervix is necessary. The method is of value in certain cases of malignancy of the body of the uterus, in deciduoma malignum, in

foreign bodies in utero, in polypi, in submucous fibroids and in incomplete inversions of the uterus

79 **Pancreatic Diseases**—Satterthwaite discusses the significance of various symptoms as far as pancreatic disease is concerned, and makes the following deductions 1 Pancreatic hemorrhage may be due to trauma, hemorrhagic diathesis, arteriosclerosis, cholelithiasis or intestinal contents injected through the common duct into the pancreatic duct 2 Acute pancreatitis, hemorrhagic or otherwise, is difficult of recognition prior to laparotomy chiefly because there is not sufficient time for the proper consideration of the circumstances of the case Mild cases may get well without a surgical operation The mortality is at least 80 per cent If the attack is due to gallstones extraction and drainage is likely to give relief 3 The mortality in chronic peritonitis from various causes may be as low as 4 per cent 4 The mortality in operations for pancreatic cyst has been 9 per cent Enucleation is only advisable when the cyst is pedunculated 5 As in cholelithiasis, expectant and palliative treatment in mild cases of the acute form will be likely to show favorable results The use of pancreatin offers promise It is given in ¾ gr doses three or four times a day The author reports thirteen cases, six carcinomatous and several due to secondary infection, in which there was absolutely no hope In two the implication of the pancreas was coincident with cirrhosis of the liver, in one with cirrhosis and peritonitis In only two cases, one of hemorrhage and one of cholelithiasis, could a surgical operation have afforded permanent relief

80 **Retrobulbar Neuritis, Strychnin Injections**—The treatment of atrophy of the optic nerve by hypodermic injections of strychnin was originated by Nagel Roosa says that the best results are achieved by making the injections in the temporal region and in the arm, and in some cases it may be necessary to give the strychnin internally Alcohol and nicotin amblyopia are the forms of disease of the optic nerve most frequently treated by hypodermic injection of strychnia If, however atrophy actually occurs it is certain that a cure is not to be expected An atrophic process may be arrested, but not cured The initial lesion in a toxic amblyopia is a neuritis in the orbital part of the optic nerve, retrobulbar neuritis, which leads to atrophy unchecked, but if recognized early enough, and appropriate preventive treatment be undertaken, a cure results When the case is of spinal or cerebral origin, or a syphilitic infection strychnin is useful The author reports nine cases, only two of which were cured The average dose of strychnin injected in these cases varied from 1/3 to 31/60 gr One case received 9/16 gr three times a day The maximum dose given to any case hypodermically was 4/5 gr and per orum ¾ gr three times a day

Medical Age, Detroit

July 25

83 Epilepsy Its Nature and Its Treatment Greshom H Hill
84 Superstititions—Medical and Otherwise C C Mapes

Cleveland Medical Journal

August

85 Acute Hemorrhagic Pancreatitis with Report of a Case J H J Upham and Isabel A Bradley
86 Seasonal Distribution of Typhoid Fever Based on the Death Reports of Cleveland Since 1892 George W Moorehouse
87 Feeding in Difficult Cases J J Thomas

Southern Practitioner, Nashville, Tenn.

August

88 Therapy of Sodium Chlorid J S Nowlin
89 After treatment of Abdominal Section L E Burch
90 Quinin in Malaria, Hematuria and Hemoglobinuria W R Haynie

Canadian Journal of Medicine and Surgery, Toronto

August

91 Thoughts on Cancer Wm Hingston
92 Neurasthenia in Some of Its Relations to Insanity Campbell Meyers

Medical Times, New York.

August

93 Sociologic Problems Depending on Diminishing Birth Rate A L Benedict
94 Syphilis in Its Relation to Marriage M Shellenberg
95 Treatment of Bronchial Asthma Wm Lloyd
96 Gynecologic Experience of a General Practitioner A C Griggs

Buffalo Medical Journal

August

97 Treatment of Patients Undergoing Abdominal Operations J A MacLeod
98 Remarks on the Methods and Purposes of Pension Examinations Sam Houston
99 Corrected Report of an Abdominal Aneurism Marshall Clinton

St Paul Medical Journal.

August

100 Some Phases of Legal Medicine Joseph B Cotton
101 The Art and Science of Medicine Charles I Greene
102 Oration on Surgery Minnesota State Medical Association Alexander Hugh Ferguson
103 Prostatectomy and Its Results Archibald MacLaren
104 Effect of Operations for Uterine Displacement on Subsequent Pregnancy H P Ritchie
105 Pneumonia—Problems in Treatment J B McGaughey

American Medical Compend, Toledo

August

106 Inflammatory Processes in Bone B Becker
107 Treatment of Typhoid Fever in Children with Acetozone H D Peterson
108 Etiology and Treatment of Dysentery R C Longfellow

Clinical Review, Chicago

August

109 Alumni Surgical Clinic Alex Hugh Ferguson.
110 Notes on the Use of Morphin Nathaniel H Adams
111 The Abuses of Morphin John C Webster
112 Multiple Neuritis (Concluded) L. Harrison Mettler

Washington Medical Annals, Washington, D C

September

113 Surgery in the Aged Wm A Jack Jr
114 Case of Cancer of the Stomach the Organ Removed Eighteen Months After Gastroenterostomy for Tumor Producing Stenosis of the Pylorus I S Stone.
115 Case of Dermoid Cyst Removed by Operation J Taber Johnson
116 Epilepsy Henry J Rhett
117 Case of Leukemia N D Graham
118 Case of Congenital Syphilis D S Lamb
119 Case of Nephrectomy for Large Cystic Kidney I S Stone
120 Case of Osteoarthritis of Knee Joint of Long Standing D S Lamb
121 Case of Human Ischiopagus D S Lamb

Journal of the Kansas Medical Society, Topeka

August

122 Radical Operations for Hernia Hal C Wyman
123 Symptoms That May Be Attributed to the Perpendicular Position Howard H Moses
124 Bullet Wounds in Civil Practice Hugh Wilkinson
125 Gall bladder Pathology—Medical and Surgical Treatment H G Welsh
126 Value of the Exact Determination of Blood Pressure in General Practice (Continued) O P Davis
127 Chorea and Anemia Koshler W Miller

Louisville Monthly Journal of Medicine and Surgery

August

128 Treatment of Summer Diarrhea Henry E Tuley
129 Management of Appendicitis T H Baker
130 Medicine 'Away Back D L Field
131 Early Morning Temperature of Infants A K Bond
132 Ovarian Hernia with Congenital Absence of Vagina Jas B Bullitt
133 Case of Strangulated Hernia S J Smock

Albany Medical Annals.

August

134 Influence of the Filtration of Potable Waters on the Death Rate of Typhoid Fever Joseph D Craig
135 Concerning the Specificity of the Somatogenic Cytotoxins Richard M Pearce
136 Infantile Inguinal Hernia of the Vermiform Appendix with Adhesions of the Epididymis MacD.. Stanton and Henry L K Shaw

New Orleans Medical and Surgical Journal

August

137 Summer Diarrhea of Infants Louis M Warfield

Maryland Medical Journal, Baltimore.

August

138 The Life Tragedy of John Addington Symonds G M Gould
139 Typhoid Orchitis Samuel T Darling.

Brooklyn Medical Journal.

August

140 Excision of the Thyroid in Graves Disease M. Figueira
141 Remarks on Typhoid Fever John Harrigan
142 Mastoiditis in Infancy and Childhood William C Braislin

Medical Standard, Chicago

August

143 Chicago Milk Problem—Charity Diet Kitchens Marcus P Hatfield and Geo Thomas Palmer
144 The Dark Ages of Medicine (To be continued) E J Kempf

145 Paraffin Injection Treatment for the Correction of Deformities. Charles J Whalen
146 Intestinal Obstruction Following Appendiceal Abscess an Anastomosis with Murphy Button Recovery L B Montgomery
147 Autointoxication and Its Treatment Heinrich Stern
148 A Surgical Clinic Alex H Ferguson

Toledo Medical and Surgical Reporter

August

149 Etiology and Treatment of Dysentery R C Longfellow
150 Case of Traumatic Tetanus Treated with Antitetanic Serum C R Justice

International Journal of Surgery, New York

August

151 Hemorrhage J H Jones
152 Sepsis Its Clinical Aspect and Treatment (Continued) J Bennett Morrison
153 Ovarian Abscess. C S Schultz
154 The Surgical Assistant (Continued) Walter M Brickner

Southern Medicine, Savannah, Ga

August

155 *A Plea for Early Exploratory Incision for Diagnostic and Curative Ends in Masked Conditions of the Upper Portions of the Abdomen Hugh M Taylor
156 Acute Gastroenteritis of Children Edgar H Nichols
157 Edema of the Lungs Wade H Atkinson
158 Medical Jurisprudence J R Cain

155—This article has appeared elsewhere See THE JOURNAL of July 2, §82, p 80

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 6

1 *Camp Sanitation F C Freeman
2 Sanitation in Volunteer Camps and the Disposal of Refuse and Excreta P B Giles
3 *Naval Dietary J Falconer Hall
4 *Duties of a Medical Officer with a Regimental Unit in the Field J F Donegan
5 *On Sterilization of Infective Discharges and Utensils on Field Service A M Davies.
6 The Recruiting Problem (To be continued) W C Beevor

1 **Camp Sanitation**—Freeman considers this important subject under temporary and stationary camps He discusses the selection of suitable sites and considers the ridge pole tent as compared with the bell tent, lays special stress on the water supply, which should be kept uncontaminated, in place of the filtered water in the field, he prefers boiled water issued in the form of weak tea, the careful policing of the field kitchens is advised, and especially that the kitchens and latrines should be kept as far from each other as possible. He lays especial stress on the latrines and advises the pail system rather than the use of trenches, as in the former the excreta are removed from the camp altogether instead of being buried He advocates the burning of all camp refuse so far as practicable

3 **Naval Dietary**—J Falconer Hall shows in graphic form a new dietary scale for the navy compared with the old scale The following articles have been added to the ration Preserved meat, ¼ pound, sugar, 1 ounce, tea, ⅛ ounce, fresh vegetables, ½ pound, with fresh meat, condensed milk, ¾ ounce, jam, 2 ounces, coffee, ½ ounce, raisins, ½ ounce, with salt and preserved meat, compressed vegetables 1 ounce, with salt pork or beef and preserved meat The following articles have been reduced by ¼ pound per diem fresh meat, salt pork and salt beef The ration of chocolate has been reduced by ⅜ ounce, and that of preserved meat by 3 ounces per diem.

4 **Duties of a Medical Officer with a Regimental Unit in the Field.**—Major Donegan takes up the difficult problem of the distribution of medical officers in the field. In his opinion the senior medical officer of the force should have the power to utilize his medical officers as he thinks best, and to send them where they are wanted, instead of the cast iron allotment per regiment The duties of the regimental medical officer in the field are 1 To be with his unit under fire in charge of regimental bearers, 2, to see the morning sick of his corps, and to send such sick, other than those suffering from minor ailments, to the brigade field hospital, 3, to attend to the sanitation of the camp, as far as it pertains to his own unit He proposes to modify the present system so that with an ample supply of medical officers a surplus medical officer is detailed to each unit on the understanding that his appointment is temporary and that he can be transferred whenever required He regards the equipment issued to the medical officer excessive and cumbersome, and suggests that the regimental medical case should contain modern tooth instruments, a surgeon's pocket case, some forceps, retractors, tourniquets, ligatures in bottles, chloroform in capsules, two waterproof sheets and two small dressing trays, antiseptic tablets, adhesive plaster, bandages, dressings and syringes For medical assistance he would add two thermometers, one stethoscope, one hypodermic syringe, with extra needles, a pocket case of medicine, a strong candle reading lamp, spare bandages, surgical dressings, etc He would divide the equipment of the unit into three classes, 1 The ordinary equipment, which consists of the hospital complete, 2, modified equipment in which all is left behind that is not urgently required, and 3, emergency equipment He attaches the greatest importance to first field dressings and suggests that instead of having the dressing carried in the pocket of the jacket, which is likely to be discarded in hot weather or in action, it should be made a part of the bandolier, properly sealed up Transport to a medical unit is all important as without transportation the unit is powerless to be of the slightest assistance. The author recommends, therefore, that all ambulance wagons and medical equipment wagons should be directly under the orders of the medical officer

5 **Sterilization of Infective Discharges and Utensils in Field Service**—Davies gives the following four methods of dealing with infective discharges as the only ones that are likely to be carried out in practice 1 Burial in earth, either in deep or shallow trenches, 2, treatment with disinfectants followed by burial, 3, sterilization by moist heat, followed by burial, 4, destruction by fire—that is, incineration

The Lancet, London.

August 6

7 *Cerebral Invasion of Pathogenic and Pyogenic Organisms and on the Choice of Ligatures William Macewen
8 Bright's Disease and Its Varieties John Rose Bradford
9 *Diaphragmatic Hernia of the Stomach and on Torsion of the Small Omentum and Volvulus of the Stomach in Association with It R. Lawford Knaggs
10 *Heart Lesions Some Points in Their Diagnosis and Treatment John Hill Abram
11 Relation of Inebriety to Insanity and Its Treatment. Robert Jones
12 *Contribution to the Sero therapeutic Treatment of Anthrax Two Cases of General Anthrax Infection in Man Cured with Anti anthrax Serum Ivo Bandi
13 Case of Removal of the Appendix on a Royal Mail Steamer at Sea Recovery T H Macfie
14 *Note on Home-made Humanised Milk C Beauchamp Hall
15 Extra uterine Gestation a Full term Child Removed by Operation Four Months After Fetal Death George D Wherry

7 **Cerebral Invasion of Pathogenic Germs.**—Macewen says that the anatomic features are often secondary determining factors between abscess and meningitis, and in the latter case between localized and generalized lesions If the access of the pyogenic organisms has been by way of the tegmen or the sigmoid, abscess of the brain or cerebellum is frequent, and if meningitis results it is, at least, primarily localized, does not immediately involve vital structures, and is often amenable to prompt treatment If the pyogenic organisms have traveled by way of the internal auditory meatus they occasion leptomeningitis of a serious kind on account of its being basal, early involving the medulla and respiratory centers, and, secondarily, on account of its inaccessibility Abscess of the brain seldom or never occurs by pyogenic organisms traveling by way of the internal auditory meatus Pus in the meshes of the pia mater and arachnoid occasionally produces softening and ulceration of the brain surface, but not abscess of the brain Patients affected with tubercle of the middle ear, with rupture of the membrana tympani are subject to secondary pyogenic invasion, which runs a rapid course. The author also discusses the choice of suitable material for ligatures and sutures and the requirements of the living tissue relative to them Catgut is one of the best of these materials, but care ought to be exercised in choosing good material. For ligatures and sutures raw catgut ought to be selected, preference being given to such

specimens as present the best physical properties and show that care has been bestowed on their manufacture Before use the catgut should be placed in a solution which increases the resistance of the gut to the action of living tissue As the resistance required varies according to the use to which the catgut is put, so the catgut is prepared with various degrees of resisting power, some hanks are prepared for rapid absorption, and some are prepared to resist absorption for long periods The gut must not be hardened in such a way as to prevent leucocytal penetration, otherwise it will be too resistant, and be no better than silk or wire One of the best media to be used for this purpose is one consisting of an aqueous solution of chromic acid and glycerin in definite proportions The longer the catgut is kept in this solution the more resistant it becomes After it has been prepared properly it is stored in a carbolized glycerin solution for two weeks, when it is ready for use The greater the vascularity of the part the quicker will be the absorption, while marked avascularity retards absorption Over contraction of the tissues or over tightening of the suture at the time of introduction also retard absorption, and so, too, the introduction of the gut into tissues deprived of their vascularity or the vitality of which is otherwise lowered In the midst of suppuration, an impervious suture is the best If catgut is introduced into a collection of fluid in the midst of living tissue, it will remain for weeks macerated but still intact It is evident that maceration does not account for absorption The use of proper material, such as is described in the article, is of service in facilitating wound healing It is no longer necessary to disturb the patient by dressing in order to remove sutures which, after they have served their function will be removed perfectly by the activity of the living cells in the patient's body

9 **Diaphragmatic Hernia of the Stomach**—Knaggs considers diaphragmatic hernia of the stomach and torsion of the small omentum and volvulus of the stomach in association with it, with reference to the causes, symptoms, pathology and treatment, and reports four cases

10 **Diagnosis and Treatment of Hernia**—Abram emphasizes the importance of thorough and careful examinations of the heart when symptoms, such as palpitation, murmurs of hemic origin and hemoptysis, exist Oftentimes they are an evidence of disease of the nervous system or of tumors pressing on nerves A cursory examination is insufficient Auscultation alone will not disclose the actual condition, a careful physical examination is necessary The author discusses the treatment with reference to (1) compensation practically equal to the lesion, (2) compensation only equal to the lesion when the patient is at rest, and (3) compensation unequal to the lesion, but offers nothing new

12 **Serum Treatment of Anthrax.**—Bandi reports two cases of general anthrax infection in man that were cured with antianthrax serum In both cases the clinical and bacteriologic examination confirmed the diagnosis The serum was used when the signs of serious general poisoning were chiefly apparent in the edema which had spread far from the primitive seat of infection, in grave disturbances of the circulation and in the evident lesions of the kidneys In the first, the most serious of the two cases, the action of the serum was rapidly decisive when free cauterization of the primary focus of infection had completely failed. The double action of the serum was evident, its anti bacterial power shown by the arrest of the infection, and its antitoxic power by the improvement in the general condition and by the complete restitution of the renal function immediately after the use of the serum The author insists on the necessity of treating such severe cases energetically by injecting into the veins large doses of the serum In the first case 150 c c were injected intravenously, no subcutaneous injection was made In the second case he injected 80 c c intravenously and 30 c c subcutaneously

14 **"Humanized" Milk**—Hall vaunts the excellency of his method of preparing cow's milk to be used by infants He calls the final product "humanized" milk In preparing he makes use of a tablet containing sufficient rennet to curdle half a pint of milk, one and a half grains of bicarbonate of sodium, one half grain of calcium phosphate, and five grains of lactose These tablets make a mixture almost identical with human milk The "humanized" milk is prepared as follows Boil or sterilize half a pint of cow's milk Skim another half a pint and add it to the first half pint Crush one tablet, and when the skimmed half pint has been heated to 100 F add the tablet stir, and keep it about the same temperature for twenty minutes Separate the curd thus produced and boil the whey for two minutes Add this whey to the first half pint of milk, and to this mixture add three ounces (6 tablespoonfuls) of boiled or sterilized cow's milk Soak all vessels used in boiling water before and after using The quantities given in these directions make one pint This method has proven extremely satisfactory in the author's experience

Medical Press and Circular, London

July 13

16 The Diminishing Birth Rate (To be continued) David Walsh
17 A Criticism of the Mosquito Theory of Infection in Malaria and Yellow Fever L Cheinisse
18 *The Criminal Responsibility of the Alcoholic Wm C Sullivan
19 The Vestiges of Syphilis Frank H Barendt

18 **Criminal Responsibility of the Alcoholic**—The question of responsibility, says Sullivan, arises in connection with three conditions (1) Chronic alcoholic insanity, (2) delirium tremens and (3) the dreamy mental state of morbid drunkenness The admission of morbid drunkenness as a condition excluding full responsibility is especially desirable in that it would further the trend of public opinion to adopt preventive measures against the criminal alcoholic When the chronic alcoholic has once shown the disposition to dream states with impulsive tendencies, especially homicidal or suicidal, he ought to be dealt with on the same footing as the impulsive epileptic—immune from ordinary punishment, but unfit for ordinary freedom

Bulletin de l'Académie de Médecine, Paris

20 (LXVIII No 28) *Etude pharmacodynamique de la stovaine Pouchet
21 La cure fermée de la tuberculose pulmonaire et de la scrofulose dans les établissements d'assistance situées sur les rives françaises de la Méditerranée E Vidal
22 (No 29) *Sur l'emploi du brome dans le traitement des angines et de la diphthérie en particulier Bascoul
23 Nouveau réactif du brome Ibid
24 Carcinose prostato pelvienne diffuse, à marche aigue, guérie par la radiothérapie A Imbert

20 **Stovaine**—The new synthetic analgesic has shown itself in experimental tests similar in its action to cocain It abolishes the vital properties of the cells with which it comes in contact and acts as a poison to the central nervous system It is considerably less toxic than cocain, and this, in connection with its tonic action on the heart, its antithermic action and its antiseptic properties, promise a fine future for it from the therapeutic point of view Huchard related a number of clinical experiences with it during the last two months He found it most effectual when injected along the course of an aching nerve and in epidural injections Not the slightest symptom of intolerance was observed after injection of 1 to 3 cg, even when the patients neglected to lie down afterward (See page 575, in last issue)

22 **Bromin in Treatment of Diphtheria**—Bascoul practices in Algiers, where it is not always possible to obtain fresh anti diphtheria serum In the lack of it, he uses bromin, and states that seven years of experience with it have demonstrated its great efficacy He administers five to ten drops of bromin in 200 gm of sweetened water, with 3 gm of potassium iodid He uses for a gargle the same with 20 to 30 drops of the bromin He applies this treatment to all kinds of sore throats, including those of the eruptive fevers and has found it both certain and effectual

Semaine Médicale, Paris

25 (XXIV No 30) Applications et technique de la jejunostomie F Lejars

Berliner klinische Wochenschrift

26 (XLI, No 27) *Zur Aetiologie der sog 'acuten katarrhalischen Gelenkeiterung W von Brunn (Marburg)

27 Precipitation of Antibodies and Its Application in Pathology D Maragliano —Der Präcipitationsvorgang und seine Anwendung in der Pathologie
28 •Zur Differential Diagnose zwischen motorischer Insufficienz und Hypersecretion des Magens (of stomach) H Strauss
29 •Larynx Tuberculose und künstliche Unterbrechung der Gravidität R Sokolowsky (Königsberg)
30 •Ueber die Verwendung von Borax bei der Behandlung der Epilepsie J Hoppe
31 Mode of Action and Limitations of Action of Antibacterial Curative Serums Sobernheim (Halle) —Ueber Wirkungsweise und Wirkungsgrenzen der antibacteriellen Heilsera (Commenced in No 26)
32 (No 28) Case of Acute Intoxication with Potassium Bichromate with Spontaneous Glycosuria Cured by Rinsing Out the Stomach with Silver Nitrate According to R v Jaksch A Pohr (Prague) —Fall acuter Chromvergiftung etc
33 •Das Lecithin Gehalt von Fett Extracten der Niere (of kidney) E K Durham (New York)
34 •Nail Healed in Heart M Koch (Berlin) —Ueber einen im linken Ventrikel des Herzens eingeheilten eisernen Fremdkörper
35 Neuer Fortschritt in der chirurgischen Behandlung der otogenen Septicopyemie (progress in) Voss (Berlin)
36 Einiger Bemerkungen über adenoide Vegetationen W Lublinski
37 •Zur Diagnose und Therapie der Tabes F Coester (Commenced in No 27)
38 (No 29) Evolution of Psychiatry T Ziehen —Die Entwicklungsstadien der P
39 Ueber motorische Reiz Erscheinungen im Pharynx und Larynx Sinnhuber
40 •Zur Behandlung einseitiger Thoraxschrumpfungen (unilateral contraction of chest) von Criegern (Quincke's clinic Kiel)
41 •Zum therapeutischen Werth der Dreyerschen Sensibilisirungs Methode R Spiethoff (Berlin)
42 Ueber den mechanischen Reiz im strömenden Bade (mechanical stimulus in flowing bath) T Groedel (Nauheim)
43 Embryologic Study of Anomalies in Buttocks Region T Brugsch —Klinisches und Entwicklungsgeschichtliches über die Bedeutung der congenitalen Anomalien der Haut der Steissgegend (Steiss Grübchen Fistel Cyste und Haarbildungen)

26 **Acute Catarrhal Arthritis.**—This communication from Küster's clinic describes 2 cases of pneumococcic arthritis which, the author states, bring the number on record to 55 The patients were 11 months and 16 years old and the cases confirm the assumed benignity of such pneumococcic processes in children They were treated by puncture, aspiration and injections of iodoform glycerin, but severer cases require more vigorous measures In the infant there was a mixed infection with the proteus, and in the other a pneumococcic knee trouble coinciding with an acute osteomyelitis of the femur on the same side, but caused by a diplococcus of another kind

28 **Differential Diagnosis of Gastric Motility and Hypersecretion.**—Strauss claims priority for Elsner's test (described in The Journal recently, page 360), and adds that his technic is simpler and more reliable His name for it is the Schichtungsprobe," which may be translated the "stratification test," as it is based on comparison of the spontaneous sediment with the total amount of stomach content His detailed article on the subject and his conclusions have just been published in the Riegel *Festschrift*, which forms vol liii of the *Zeitschrift f klin Med* He does not accept the findings of the stratification quotient with as much confidence as Elsner, as he found a quotient of 60 per cent and over in certain cases with free HCl, and not a trace of motor disturbances He has also found quotients of 4 to 8 per cent., both with and without motor incompetency

29 **Laryngeal Tuberculosis and Pregnancy**—Sokolowsky advocated interruption of the pregnancy in 2 women with advanced laryngeal tuberculosis The disease had made giant strides during the pregnancy, which was in the sixth and eight months when the patients were first seen Both succumbed within four weeks of the artificial delivery Goldkesen's 2 patients, under similar circumstances, died in three weeks Notwithstanding these unfortunate occurrences, the author reaffirms the importance and value of interrupting the pregnancy in every case of progressive laryngeal tuberculosis, but insists that it should be done during the first months of gestation He examines every woman with laryngeal tuberculosis for a possible pregnancy, and advocates artificial sterilization of such women

30 **Borax in Epilepsy**—Hoppe's observation of 12 epileptics treated with borax suggests that it may be found useful in the cases of epilepsy which are unfavorably affected by some existing stomach trouble Unmistakable benefit was apparent in 5 cases, although the borax has no specific influence on the disease

33 **Lecithin in the Kidney**—Dunham's analysis has shown that the lecithin in the kidney deserves far more attention than hitherto accorded An alcohol chloroform extract of kidney tissue contains much more lecithin than heretofore supposed, although the kidney can by no means be regarded as a deposit of fat

34 **Nail Healed in Heart.**—Koch found a nail, 3 cm long and from 1 75 to 3 mm thick, as a necropsy surprise in the heart of a robust man of 72, formerly a woodworker, who had died of senile bronchitis He reviews the literature on the subject, and states his grounds for the assumption that the nail had been suddenly driven into the heart from without, its direction, its position in the left ventricle and fixation in the septum, and the absence of any changes in the pericardium The family knew of no traumatism

37 **Diagnosis and Treatment of Tabes.**—Coester practices at Wiesbaden, and has frequently had occasion to diagnose tabes in persons sent to the spa on another diagnosis—rheumatism, neuralgia, etc He emphasizes the importance of an early diagnosis in order to institute mercurial treatment before the lesions have become irreparable From a material of 102 cases he warns that the first lightning, lancinating pains in tabes are almost invariably supposed to be rheumatic in their nature They generally appear first in the legs Paresthesias should also suggest the possibility of tabes, and also variations in sensibility Hypalgesia to analgesia is a particularly valuable sign of incipient tabes, especially when asymmetric His experience emphatically corroborates the view that tabes can be modified and even cured by mercurial treatment, or at least arrested in its progress The main thing is to institute it in the early stages Mercurial treatment never proved injurious in any of his cases He reports a number in detail One patient was a woman of 33, who complained that she had had severe headaches since the first of her ten years of married life, had aborted once, and had had transient abducent paralysis and double vision, the paralysis yielding to salicylates The headaches were chiefly occipital and in the region of the root of the nose, and there were occasional pains in the limbs, with hypesthesia and hypalgesia in the legs The diagnosis was at first hysteroneurasthenia with chlorosis, and the patient improved under arsenic and iron, electricity and baths She passed through a normal pregnancy, but afterward grew worse, and when seen again the diagnosis of typical tabes was unmistakable It probably had existed for many years, the headaches the first tangible symptom Years had been wasted on a diagnosis of gout and rheumatism The idea of mercurial treatment was suggested, but derided by a consultant, and slight transient improvement was realized under other measures The intolerable pains, gastric crises and frequent vomiting compelled the use of morphin Inunctions were finally commenced, resulting in the complete cessation of the pains and gastric crises The unmistakable benefit in this case proved an incentive to further application of specific treatment, but as all the cases observed were in the long established stage, the results were not what may be anticipated when commenced in the incipency of tabes This hope is justified by the recent announcements from France that lymphocytosis in the cerebro spinal fluid is a constant phenomenon in tabes and progressive paralysis

40 **Treatment of Unilateral Contraction of Thorax.**—The thorax is frequently found to be contracted on the side that has been the seat of some pleura or lung affection This is combated at Quincke's clinic by strapping in the sound side An apparatus is applied, shown in the illustration, which presses on the sound side, four strips of metal reaching from the shoulder nearly to the thigh on the affected side, the whole held in place by a ring around the thigh and straps around the shoulder

41 **Phototherapy After Sensibilization.**—Spiethoff reports from Lesser's clinic 6 cases of lupus treated on the lines sug

gested by Dreyer, noticed editorially on page 404 The results were entirely negative

Centralblatt f Gynakologie, Leipsic

Last indexed page 522

44 (XXVIII No 17) *Zur Ureteren Chirurgie H Füth (Zweifel's clinic, Leipsic)
45 *Zur Vermeidung der Ventrofixatio uteri (avoidance of) F Spaeth (Hamburg)
46 Fall von Ovarial Cyste bei einem 10 jährigen Mädchen mit Stiel Torsion Volvulus des S romanum. A Karczewski
47 Detached Head in Parametrium P Rathcke —Ein abgerissener Kopf im P
48 (No 18) Fall von Chorio-Epitheliom S v Zaborsky
49 *Responsibility of Operator R Kossmann —Die Verantwortlichkeit des Op
50 *To Prevent Leaving Sponges in Abdomen H Kreutzmann (San Francisco) —Ein kleines Hilfsmittel das Zurücklassen von Tüchern in der Bauchhöhle nach Operationen zu vermeiden
51 (No 19) Schonende oder forcierte Entbindung bei Eklampsie (conservative or forcible delivery in eclampsia) Kroemer
52 Physiologic Behavior of Lower Segment of Uterus During Childbirth F d'Erchia —Ueber das physiol Verhalten, etc
53 Cervix Frage und unteres Uterin Segment O Schaeffer
54 Neuer Dilatator zur Uterus Dilatation nach Bossi G Walcher
55 Ein neuer gynäkologischer Untersuchungs Stuhl (examining chair) Fleurent (Colmar)
56 (No 20) Fall von akutem Hydramnion bei Zwillingsschwangerschaft (twin pregnancy) R Mond
57 Zur Bestimmung des geraden Durchmessers des Beckeneinganges (diameter of inlet) H Sellheim
58 Vaginal Cesarean Section in Case of Placenta Previa P Steffeck Reply to Dührssen See abstract 41 page 230
59 Tamponing After Vaginal Cesarean Section R Ruhl Ibid

44 **Surgery of Ureters**—Füth describes a case in which the functional test of the kidneys described in The Journal of Jan 2, 1904, page 69, proved of decided benefit and enabled the patient to be relieved of a fistula and restored to health The test was devised by Voelcker and Joseph and consists in the behavior of the kidneys after injection of 4 c c of a tepid solution of 4 gm carminum ceruleum in 10 c c of physiologic salt solution The injection was made in the buttocks It was supplemented by catheterization of the ureters, the findings showing that there was a small leak in the ureter causing the persistence of the fistula

45 **Avoidance of Ventrofixation**—Spaeth has found that in certain cases of backward displacement the adhesions, etc, are so extensive that if the uterus is allowed to sink back into its former place it soon grows as firmly in this malposition as before Ventrofixation prevents this, but is sometimes followed by dysmenorrheic disturbances To avoid this he has treated three patients by drawing the round ligament on each side through the internal inguinal ring and fastening the loop of the ligament in such a way that the uterus is held securely in its proper position A further advantage of this technic is as a prophylactic of hernia ,

49 **Responsibility of the Surgeon**—Kossmann urgently recommends surgeons to take out an insurance policy in some responsible society that insures physicians and surgeons against damage suits, etc He pays less than $3 a year and is guaranteed against financial loss from any suit resulting from his professional acts or those of any person for whom he is legally responsible He further asks the husband, parent or guardian of each patient entering the hospital in his charge to sign a certificate expressing their acquiescence in every measure which he, as the physician, thinks advisable He has never encountered any unwillingness to sign the certificate In conclusion, he urges the surgeon to act on the aggressive Without waiting for a criminal suit to be instituted, so soon as he learns that parties are contemplating such a step and are accusing him of malpractice, he should at once sue them for libel and place them on the defensive, instead of waiting to be attacked himself He will in most cases find that the other parties will apologize and retract their statements, after which he can withdraw his suit He adds that charlatans, and faddists generally, frequently pore over medical journals to find loopholes for attack, and advises medical writers to be cautious in making statements that can be misconstrued or exaggerated to the harm of the profession

50 **To Prevent Overlooking of Sponges, Etc, During Operations**—Kreutzmann has the compresses tied up in packages containing a dozen, and each dozen is plainly marked with indelible ink, 1, 2, 3 etc, or I, II, III, etc, or A, B, C, or a, b, c, etc Each package has thus its separate identity and the sponges from one can not be confounded with those from another package Before the operation he himself counts the compresses in each pile, to make sure that the dozen is complete After the operation all the compresses are thrown on the floor in rows corresponding to the original piles, and he glances over the rows to make sure that the dozens are all there He had a very narrow escape not long ago from leaving a compress in the abdomen, and since then has been taking these extra precautions which render such mistakes impossible

Deutsche med. Wochenschrift, Berlin and Leipsic.

60 (XXX, No 20) *Ueber ultramikroskopisch sichtbare Blutbestandteile (elements of blood) E Raehlmann (Weimar)
61 *Zur myasthenischen Paralyse H Oppenheim (Berlin)
62 Ueber posttraumatische Meningitis H Curschmann.
63 Zur Diagnostik des pathologischen Rausches (intoxication) R Kutner
64 *Primäre Diphtherie eines Nierenbeckens durch Operation geheilt (renal pelvis) F Krause (Berlin)
65 *Zur Diagnose und Behandlung der Azoospermie. C Posner and J Cohn
66 Ein zweckmässiger Apparat zur Anwendung des Katheterismus bei Ohrenkranken (in aural affections) Voss (Berlin)
67 Zur Aetiologie und Therapie, speziell Balneotherapie, der Psoriasis vulgaris H Kobner
68 *Scalp and Lids W Albrand.—Kopfhaut und Lidrand.
69 Die pathologische Physiologie an den Universitäten Oesterreich Ungarns (Austro-Hungary) A. Bickel (Berlin)
70 (No 30) *Ueber Ulcus rodens P Grawitz (Greifswald)
71 *Neuere Erfahrungen über die Therapie der perniziösen Anämien E Grawitz
72 *Nasenverkleinerungen (reduction of size of nose) J Joseph
73 *Erfahrungen mit der Marx Ehrnroothschen Methode zur forensischen Unterscheidung von Menschen und Tierblut (biologic blood test) H Pfeiffer
74 Acute Inflammatory Edema of Larynx from a Scald Schultz —Ueber das akut entzündliche Oedem des Kehlkopfs durch Verbrennung bezw Verbrühung
75 Judicial Proceedings Affecting Physicians Flügge —Die Rechtsprechung in ärztlichen Angelegenheiten
76 V Cnyrim Obituary

60 **Ultramicroscopic Findings in the Blood.**—The new ultramicroscope has revealed some hitherto unknown phenomena in the blood elements Raehlmann gives several illustrations of views of the blood cells, showing that they contain several little round bodies previously ignored Also that these bodies and the granules are in perpetual, active movement inside the cells, hopping around and to and fro for nearly half an hour after the blood has been drawn These findings were constant in man, animals and fishes in all the researches The serum and serous fluids also contain numerous particles of albumin in suspension, resembling yellow balls and gray dots, all hopping around in a lively manner, constantly changing their shape as well as place He thinks that these findings are important from the point of view of metabolism and the vital processes in general

61 **Myasthenic Paralysis.**—Oppenheim's patient was an otherwise healthy metal worker, 47 years old, who noted the sudden development of paralysis of both internal recti, with crossed double vision, fluctuating in intensity For an hour after waking in the morning he was free from symptoms The "myasthenic reaction" could be elicited from the left deltoid muscle Electric tests of apparently sound muscles are the best means of differentiating such a case from tabes Further evidence is the finding of the almost inevitable accompanying congenital anomaly of some kind, in this case it was polydactylia Foci of cellular infiltration have also been found in the muscles, with intact nervous system, in case of myasthenic paralysis Such foci are explained by Weigert as metastases of a malignant tumor, originating in the thymus The tumefied, degenerated remains of the thymus have some further share, probably, in the production of myasthenic paralysis This confirms the assumption that it is rooted in the soil of a congenital tendency, the German Anlage

64 **Operative Cure of Primary Diphtheria of Kidney**—Krause remarks that he has not heard of a case of kidney inflammation, treated by surgical intervention, in which the trouble was due to a pseudo membranous affection, as in the case he describes A young woman suffered from pains in the right side and back almost constantly during her first pregnancy Soon afterward she was struck in the right side and the pains recurred, with vomiting and bloody urine, for a week

or so A few weeks later symptoms of severe, acute right nephritis developed, with retention Krause opened up the right kidney and found a pseudomembranous process in the pelvis, with multiple, acute interstitial nephritis, but no suppuration, evidently on a predisposed soil The findings suggested primary diphtheria, although the Gram was negative The kidney was cleansed of the necrotic masses and held in the wound by loosely tamponing bandages after it had been opened like an open book, the raw surfaces covered with gauze Krause thus opens up all cases of kidney suppuration on which he operates, and his experience has been extremely satisfactory with this technic The kidney gradually subsides into place In the case described the cleft was only 3 cm deep by the seventeenth day and the wound had entirely healed a month later the patient gaining 15 pounds and dismissed in good health

65 **Azoospermia**—Posner and Cohn have encountered 35 cases of azoospermia in the last three years, and have treated 6 patients by making an anastomosis between the severed vas deferens and the head of the epididymis They state that they were inspired to this step by the success of similar operations on animals and man by Scaduto, Razumowski and Bogoljuboff in Europe, and by Martin, Carnett, Levi and Pennington in this country The interval between the undoubted cause of the obliteration—gonorrhea or mumps, or both—and the plastic operation was four to twenty seven years, the average nine The length of the interval is probably responsible for the lack of functional success in every instance The operation was well tolerated and the wound healed rapidly If undertaken earlier, while the *vis a tergo* is still adequate, functional success would be the rule They base their diagnosis on puncture of the testicle, when positive Negative results compel further exploratory measures The spermatozoa may not be motile the prostatic secretion may be necessary for this The stricture is usually multiple Physicians should strive to prevent obliteration of the passages by relics of gonorrheal or other inflammatory processes After the acute stage is passed systematic massage by Zabludowski's technic, iodin internally and similar preventive measures might be found useful Thiosinamin might possibly be used to advantage in these cases In any event, the physician should examine the semen occasionally after subsidence of an acute epididymitis, and as soon as azoospermia is discovered the patient should be instructed and prompt measures advised Semen can usually be obtained for examination by pressure on the prostate applied through the rectum, examining the urine also

68 **Eyelid Affections and the Scalp**—Albrand declares that it is absurd to neglect examination of the adjacent part of the scalp in case of lesions of the lids The scalp has almost as much to do with the pathology of the lids as the lachrymal ducts.

70 **Ulcus Rodens.**—Grawitz presents arguments to support his assumption of the epithelial nature of ulcus rodens The article is illustrated. He does not credit the existence of endotheliomata of the skin

71 **Successful Treatment of Pernicious Anemia.**—Grawitz is amazed that so little attention is paid to the treatment of pernicious anemia on the basis of an enterogenic origin The disease is only a secondary, severe degeneration of the blood cells with vigorous regenerative activity on the part of the marrow It is explainable by the assumption of some poison acting on the erythrocytes The poison may come from without (lead arsenic, morphin, carbonic acid, etc), but in the majority the poison is of auto-origin, absorbed from the intestines and acting as a specific toxin for the blood in predisposed subjects Cases of this latter kind can be cured by putting an end to the autointoxication, while the ideas that they are incurable, or to be treated only by albumin dieting and arsenic, are equally absurd He describes several cases out of his large experience of cures of pernicious anemia Case 1 was a multipara, 38 years old a milk man's wife, who presented the typical picture of pernicious anemia of sudden onset, with, beside the blood findings, edema, retinal hemorrhages and intense prostration enlarged spleen, slight icterus and ascites and slight temperature The teeth were badly decayed, the bowels torpid, the gastric motor function defective, and no free HCl could be discovered No medicines were given, but the mouth was put in good order and the diet restricted to vegetables and cereals, all mashed or in porridge form The stomach was rinsed out daily with tepid salt solution, and lemonade taken freely The animal albumin needed was given in the form of nutrient enemata after rinsing out the intestines with peppermint tea or salt solution A few drops of digitalis were given at first, but otherwise no medication Within a week the edema had subsided and the hemorrhages had been absorbed By the end of the second week the blood findings began to return to normal, and by the end of the month the patient had gained 18 pounds The nutrient enemata were discontinued during the third week, and the dietary enlarged, but the foods were all soft. A little hydrochloric acid was then given and Fowler's solution The patient was dismissed the picture of health, but returned before the year was out with a protracted suppurative pyelonephritis, to which she succumbed, but the blood findings never resembled those of pernicious anemia Case 2 was a workingman of 48, with acute delirium, râles at the apices, absence of free HCl, with the presence of albumin and indican in the urine, with the blood findings of pernicious anemia He was treated the same as Case 1, no drugs, except a few drops of hydrochloric acid Recovery was rapid, and the patient gained 23 pounds in four months The article is continued

72 **Reduction of Size of Nose**—Joseph gives illustrations of a few of the 43 patients for whom he has remodeled the nose He describes his technic of intranasal reduction of the protuberant bones, not incising the skin, and also his technic when the operation is done from without The scar is minimal, while the cosmetic results are perfect especially with the "scarless" method

73 **Value of the Marx-Ehrnrooth Biologic Test.**—Pfeiffer's experience with this test which was described on page 1393 of the last volume, was eminently corroborative of the author's statements Its chief value is for the control of the biologic blood test.

Münchener medicinische Wochenschrift

77 (LI No 26) *Neuere Untersuchungen über den Keimgehalt der gesunden unteren Luftwege und über die Pathogenese der Pneumonie H Dürck (Munich)
78 *Participation of Oxygen in Action of Fluorescent Substances A. Jodlbauer and H v Tappeiner (Munich) —Ueber die Beteiligung des Sauerstoffes bei der photodynamischen Wirkung fluoreszierender Stoffe
79 Ueber radioaktive Substanz der Nauheimer Quellen (of Nauheim waters) Schott (Nauheim)
80 Eine Graviditäts Toxonose des Zentral Nerven Systems L Brauer (Heidelberg)
81 *Ueber eine während der Gravidität rezidivierende Epilepsie H Curschmann
82 Der Standpunkt der Münchener chirurg Klinik in der Frage der Appendizitis und Perityphlitis Therapie Gebele
83 Ueber Coxa vara F Härtung (Leipsic)
84 *Ein registrierendes Thermometer für Körper Temperatur Franz (Berlin)
85 *Ein Minuten Sterilisator F Kuhn (Carlsruhe)
86 Ein Spül Katheter für die Blase nach Dommer (rinsing catheter for the bladder) F Dommer
87 Juvenile Muskel Dystrophie bei einem älteren Manne nach Trauma (in elderly man) von Hosslin
88 *Beiträge zur experimentellen Begrundung der Pettenkofer'schen lokalistischen Cholera und Typhus Lehre (soil in etiology of cholera and typhoid) R. Emmerich and W Gemünd (Munich) (Commenced in No 25)
89 History in Medical Instruction M Seiffert (Leipsic) —Aufgabe und Stellung der Geschichte im medizinischen Unterricht
90 (No 27) Ueber Reaktionen anorganischer Kolloide und Immun Körper Reaktionen K Landsteiner and N Jagic
91 *Blood Platelets and Coagulation R Bürker (Tübingen) —Blutplättchen und Blutgerinnung
92 Retinal Nerve Cells Birch Hirschfeld (Leipsic) —Die Nerven Zellen der Netzhaut unter physiologischer und pathologischen Verhältnissen mit bes Berücksichtigung der Blendung (Finsen Röntgen, Radium)
93 *Die agonale Leukozytose J Arneth
94 *Ueber die ammoniakalische Reaktion des Harns bei Phosphaturie und über Phosphaturie und Ammoniurie als objektive Symptome von Psychosen W Heinicke
95 Die non operative Behandlung der Ohrentzündungen (ear inflammations) R Panse (Dresden)
96 Zur Aetiologie der Melaena neonatorum F Bauer
97 Erythrozytose (Hyperglobulie) und Splenomegalie Zandy
98 Centrier Vorrichtung für Röntgen Röhren. Blenden Kästchen (diaphragms) R Grashey (Munich)
99 (No 28) *Ueber den Gebrauch des Morphiums bei Herzkranken (in heart disease) K Grassmann (Munich)

100 Zur Schilddrüsenbehandlung des congenitalen Myxödems (thyroid treatment of) K Alt (Altmark)
101 *Zur Abortiv Behandlung der akuten Gonorrhoe S Bettmann
102 *Zur Diagnose der Pylorus Stenose J Decker (Munich)
103 Neuritis optica bei Paratyphus G Flatau (Kiel) One case
104 Beitrag zur primären Darm Tuberkulose beim Kalb (intestinal tub in calf) A Trentlein (Würzburg)
105 Die Extraktion des hochstehenden Kopfes mit der gewöhnlichen Zange (extraction of high head with ordinary forceps) A Calmann
106 *Neue Technik der Cervix Catarrh Behandlung Sanlter
107 Ueber intrauterine Skelettierung F Moebius
108 Zur Klinik und Bakteriologie der Angina ulcerosa membranacea A Uffenheimer (Commenced in No 27)
109 (No 29) *Zur Kenntnis der Bence Jones schen Albuminurie F Voit and H Salvendi (Erlangen)
110 Variabilität der Bakterien und Agglutinations Phänomen F Passini
111 Die Bakteriologie der Chromidrosis (colored sweat) R Trommsdorff
112 *Erfahrungen mit Lokal Anesthesie durch Eucain und Eucain Adrenalin O Simon (Czerny s clinic Heidelberg)
113 Fall von inkarzerierter Zwerchfell Hernie Beitrag zur chirurgischen Therapie der Hernia diaphragmatica L Martin
114 Die Bedeutung der pathologischen Anatomie des spinal gelähmten Muskels für die Sehnenplastik (paralyzed muscle in tendon plastics) J Koch (Hoffa s clinic Berlin)
115 Fate of Swallowed Foreign Bodies Appel (Brandenburg) —*Zur Frage nach dem Schicksal verschluckter Fremdkörper*
116 Ueber Iod Catgut H Fuchs (Dantzic)
117 *Zur individuellen Prophylaxis des Gelb Fiebers auf Grund der Finlayschen Contagions Theorie (prevention of yellow fever) F von Bassewitz (Porto Alegre Brazil)
118 Eine neue Modifikation des Reflektors G Trautmann
119 Neuropathologie und innere Medizin F Schultze (Bonn)
120 W Griesinger as Editor K Sudhoff
121 Report of Libel Suit Brought by 98 Physicians of Wiesbaden Against Dr A Pfeiffer See page 340

77 **Pathogenesis of Pneumonia** —Dürck believes that pathogenic germs are liable to be inhaled constantly into the lungs, but that they are promptly destroyed by the bactericidal forces at work there and absorbed Those found postmortem are the latest comers, and they are usually attenuated When the organism is depressed from any cause, especially by being chilled, the pneumococci present do not become attenuated, while the bactericidal defenses become weakened The result is liable to be a pneumococcic infection He placed rabbits in water just above the freezing point and kept them there for two to ten minutes, as in his experiments previously reported, but without preliminary heating About half the animals developed foci of pneumonic consolidation in a few days One rabbit died and both lungs were found consolidated to leathery consistency and entirely empty of air

78 **Oxygen in Photodynamic Fluorescence** —This latest announcement from Tappeiner that the presence of oxygen is indispensable to the photodynamic action of fluorescent substances, supplements the editorial on page 404 He has further found that active oxygen is constantly generated in photodynamic solutions exposed to the light

81 **Epilepsy of Pregnancy** —This communication from Erb's clinic describes a case of genuine epilepsy which developed during a pregnancy and subsided after its termination The observation emphasizes the fact that artificial interruption of the pregnancy is not necessary in such cases Systematic medicinal treatment will usually mitigate the symptoms, reducing the number and the severity of the convulsions His patient was a woman of 38, free from nervous tendencies or heredity, who had passed through 3 normal pregnancies and 3 abortions At the beginning of the eighth month of the seventh pregnancy partial epileptic seizures occurred, recurring every second day until delivery, then becoming less frequent and vanishing completely by the end of a month A pregnancy later was accompanied by the same convulsions, commencing at the eighth month, but much more intense and recurring sometimes twenty to thirty times a day The attacks lasted only three minutes and there was no loss of consciousness, and no sleep afterward Under bromid and chloral treatment the convulsions were somewhat improved, but the entire syndrome was permanently dispelled three weeks before delivery by an intercurrent, *febrile infection*, a bronchitis with an erysipeloid dermatitis of protracted course, accompanied by a psychosis, which lasted for two months after delivery The convulsions in this case indicated an affection of the lower parts of both right central convolutions, with slight participation of the other parts and adjoining convolutions The particulars of the case are given with much detail, and the connection between pregnancy and epilepsy corroborated with a review of the literature We note in the latter de la Motte's report of a woman who had epilepsy during 3 pregnancies, terminating in the birth of boys, while no symptoms of the kind were observed in the 5 pregnancies with girls A similar case has been reported by Van Swieten

84 **Self-Registering Thermometer** —Franz' "thermograph" consists of a thermometer set in a silver capsule which is fastened in the axilla A sensitive spring in the capsule transmits to a recording drum any variations in the temperature after the maximum has been determined The description is illustrated

85 **A Minute Sterilizer** —The aim is to use as little water as possible, apply the heat to as large a surface as possible, and utilize every particle of the water Kuhn accomplishes this by means of a long, wedge shaped trough, with a row of gas jets its entire length below

88 ***The Soil, Not the Water, the Transmitter of Cholera and Typhoid.***—Emmerich and Gemünd have been conducting extensive research which has demonstrated that the nitrates have remarkable power to enhance the virulence of cholera germs Guinea pigs tolerated without apparent reaction as much as 1 5 gm sodium nitrate ingested in 10 c c albumin They also tolerated a considerable amount of cholera bacilli per os But when the two were combined the animals rapidly succumbed with symptoms of cholera The same result must inevitably follow when man ingests cholera bacilli and nitrates The bacilli transform the nitrates into nitrites, and the latter cause the intoxication Plenty of nitrates are ingested in vegetables, etc , to cause severe intoxication when transformed into nitrites by any agency In a dry season plants contain an unusual amount of nitrates When there are no nitrates in the stomach the action of the cholera bacilli is comparatively mild Pettenkofer surmised that the soil, rather than the water, was the paramount factor in epidemics of cholera and this surmise has been confirmed by the research described It establishes that the drinking water can never be incriminated Water is rapidly cleared of pathogenic germs by the action of protozoa, especially the flagellates These are the guardian hosts of the drinking water, rapidly destroying all the pathogenic bacteria that find their way into it They accomplish this task in a few minutes in a brook or river, but may require several days for it in pure spring water Nature has protected water against pathogenic bacteria by the hosts of protozoa, the more polluted the water the more numerous the protozoa Typhoid and cholera bacilli multiply in the soil, not in the water, and only in the upper layers of the soil, where they can be easily reached and destroyed in combating epidemics Flushing the ground with water would accomplish this Fifty years ago Pettenkofer proclaimed that cholera germs might be imported and deposited in the stools, but that they alone were unable to induce an epidemic unless they encountered certain indispensable conditions, whose nature was still a mystery Emmerich and Gemünd believe that the results of their research supply the key to this mystery, namely, that "the ripening or exaltation of the virulence of the cholera bacilli" is dependent on an increased nitrite forming property in a soil peculiarly rich in nitrates They are convinced that prophylaxis should be along these lines, and that it is feasible and easy of realization

91 **Blood Platelets and Coagulation** —Bürker proclaims that *the amount of* fibrin depositing is in direct proportion to the number of blood platelets destroyed in the blood The destruction of the platelets also corresponds in time to the time of coagulation under the influence of varying temperatures When there is no coagulation, no blood platelets will be found to have been destroyed Coagulation in *freshly* drawn blood is connected with the typical destruction of the blood plates

93 **Agonal Leucocytosis.**—Arneth states that every disease has its special leucocytosis, and the agonal stage is merely the last phase of the specific leucocyte curve It varies with each disease

94 **Ammoniuria and Phosphaturia in Mental Disease**—Heinicke in his psychiatric practice was impressed with the frequency of phosphaturia and carbonaturia in his patients He has found manifest or latent ammoniuria or phosphaturia in every patient exhibiting a psychosis He further noted that the urine returned to normal as the mental affection progressed toward recovery The phosphaturia generally accompanied the height of the affection It is possible that the subsidence of the ammoniuria or phosphaturia may be an aid in prognosis, and their absence may also serve to reveal simulation

99 **Morphin in Heart Disease.**—Grassmann does not admit that heart affections should contraindicate the use of morphin in the usual therapeutic doses The sudden deaths that have followed the use of morphin in rare instances are on a plane with those observed from the use of chloroform, and are not to be explained by the assumption that morphin is a poison for the heart It should be given cautiously in acute processes in the endocardium or myocardium, as also in acute respiratory affections in persons with weak hearts It can be given freely in all purely functional nervous heart disturbances, especially in angina pectoris not due to organic causes, and even in the organic angina pectoris, stenocardia, small doses of morphin are allowable or even indicated It is unconditionally indicated in all severe cases of cardiac asthma, but its use is advisable only under great restrictions in the chronic dyspnea of ambulant cardiac subjects Morphin may prove very useful when digitalis and other heart remedies fail or have lost their efficacy It is also extremely valuable in excited, sleepless and debilitated patients as a preliminary to a course of digitalis

101 **Abortive Treatment of Gonorrhea**—Bettmann adds 10 gm of protargol to 45 gm cold water in a shallow dish and allows it to dissolve without stirring or shaking Glycerin is then added to bring the amount to 100 gm He prefers penciling to injecting the fluid, applying it daily to the anterior urethra for a distance of 6 to 8 cm in cases of acute gonorrhea Six to eight applications were sufficient in his experience with 42 patients, and no gonococci could be found thereafter in about half the number The treatment is less disagreeable than with silver nitrate Even in the incompletely aborted cases the course of the affection was remarkably mild. He considers this technic superior to others in vogue for several reasons, which he enumerates, especially for gonorrhea in the female, in recurrences, and in cases requiring rapid suppression of the secretion

102 **Diagnosis of Stenosis of Pylorus.**—Decker calls attention to the fact that an almost infallible sign of pyloric stenosis is afforded by the finding of the stomach content or parts of it in a well worked up homogeneous chyme. When the motor function is defective the food remains in coarse particles, but when it is strong enough to work the food into a soft, porridge like mass, it would certainly be able to expel the chyme from the stomach unless there were some obstruction at the pylorus In seeking for a tumor it is generally indispensable to determine the outlines of the stomach, as the pylorus is frequently concealed by the liver In 2 cases he differentiated the pyloric stenosis by the daily copious vomiting and hypersecretion

106 **Improved Technic of Treating Cervical Catarrh.**—Saniter is convinced that cervical catarrh is generally restricted to this part, and cites in warning Plien's recent statement that 7 out of 9 acute cases in his experience acquired annexitis from local treatment of the cervix Saniter attributes the infection in such cases to the cotton swab He avoids this by using asbestos fiber for the swab The fibers can be wound smooth around the sound or probe, and they take up the fluid as readily as cotton The asbestos wound probe can be held in a flame and burnt absolutely sterile He has his Playfair sounds made with a groove along the convex side, which allows the swab to be easily pulled off without contact with the fingers He uses microscope pincers for the purpose, as they hold the swab instead of allowing it to drop on the floor The groove in the sound also allows more fluid to be taken up than without it Swabs made on this principle will be found useful in rhinology, laryngology, etc, for cocainizing the urethra, cauterizing fistulas, etc

100 **Bence Jones' Albuminuria**—In the case reported the Bence Jones albuminoids were found constantly in the urine, the proportion ranging from 13 to 33 per cent No tube casts were ever found The patient was a man of 57, subject to gout, but otherwise apparently healthy The blood findings showed a leucocytosis of 10,000 to 11,000, predominantly lymphocytes, up to 60 per cent There were no indications of a bone affection, but something of the kind probably existed

112 **Local Anesthesia with Eucain.**—The number of operations at Czerny's clinic and dispensary increased respectively from 1,717 and 1,035 in 1897 to 1,955 and 1,502 in 1902 The increase in the number done by local anesthesia alone was from 91 and 21 in 1897 to 185 and 193 in 1902 During the latter year he witnessed the death of a patient from cocain local anesthesia Only 7 c c of a 1 per cent solution of cocain had been injected into the urethra, but convulsions and arrest of the heart and respiration followed immediately The patient was a young man with sexual neurasthenia and chronic prostatitis The fluid had remained in the urethra only two minutes at the utmost Since then eucain has been exclusively used for local anesthesia, with or without adrenalin, and it has been found perfectly satisfactory It is comparatively nontoxic, while an isosmotic, warmed solution of eucain induces anesthesia as effectively as cocain in the same strength Adrenalin enhances its action, and is free from by effects in subcutaneous injection, in concentrations of 1 to 20,000 The Oberst technic is preferred The list of operations done under eucain is given, 188 in all The supplementary adrenalin was particularly valuable in extirpation of deep tumors, lipomata, adenomata of mamma and struma, excision of small tumors of tongue and lips, angiomata, in operating on the jaws, and in small plastic operations Eucain is particularly useful as a preliminary to cystoscopy

117 **Individual Protection Against Mosquitoes and Yellow Fever**—Bassewitz affirms that the stegomyia absolutely refuses to bite when insect powder has been rubbed into the skin The powder to which he refers is the pulverized flowers of the *Chrysanthemum cinerarifolia* or *rosæ* When this powder is unadulterated and fresh, the hungriest stegomyia flees from it or dies after contact with it

Riforma Medica, Palermo and Naples

Last indexed page 579

122 (XX No 25) Formations Simulating the Negri Bodies in Hydrophobia Pace (Naples)—Sopra alcune speciali formazioni eosinofile simulanti i corpi di Negri, nelle cellule dei gangli cerebro spinali dell uomo idrofobo
123 *Alterazioni anatomo-patologiche del fegato dei reni dei polmoni, nell avvelenamento da formalina (formalin poisoning) G Riggio
124 Production of Specific Antibodies by Means of Injection of Pleural and Peritoneal Exudates and Transudates. C Quadrone (Turin)—Sopra la formazione di anticorpi specifici ottenuti mediante iniezioni di essudati e transudati pleurici e peritoneali di natura diversa. (Commenced in No 24)
125 Alcune laparotomie importanti A Albanese (Palermo)
126 (No 26) *Poliartrite diplococcica A Baduel (Camerino)
127 La narcosi col cloruro d etile Studio critico riassuntivo su oltre 200 casi di narcosi (ethyl chlorid) V Gaudiani
128 *Azione del saccaromyces cerevisiæ sul bacterium coli nelle gastroenteritite infantili Puoti

123 **Intoxicant Action of Formalin**—Riggio's conclusions from his various groups of experimental researches are to the effect that formalin is a poison which induces intense hyperemia in the organs by which it is probably eliminated. This occurs both when the poison is administered subcutaneously or by inhalation The hyperemia is so intense that it induces hemorrhages in the liver, kidneys and lungs The formalin has also a destructive action on the cells of these organs, as he shows in detail

126 **Diplococcus Polyarthritis**—Baduel's patient had first an acute pneumonia This was followed by a slow suppurative process in the pleura in the course of which developed what was apparently an articular rheumatism, but was found to be a diplococcus affection The syndrome had many points in common with what Marie has described as "pneumic osteo arthropathy deformans" The joints were enlarged and the nail-

curved Marked improvement was observed after a course of treatment with a solution of Castrocaro salts

128 **Yeast in Infantile Gastroenteritis**—Puoti has observed great benefit from the administration of brewers' yeast in infantile gastrointestinal affections The symptoms are much improved, but the colon bacillus *in vitro* is not modified by the yeast He explains its favorable action as possibly due to a modification of the toxic products of the bacteria or to its influence on the organism itself, re enforcing its resisting powers

Medizinskoe Obozryenie, Moscow

Last indexed XLII, page 934

129 (LX No 18) *Gonorrheal Vulvo vaginitis in Children A P Rudsky—O dyetskom perelolnom vulvo vaginitye
130 *Diagnosis of Organic Tricuspid Insufficiency Complicating Affections of Valves and Orifices of Left Heart S I Schwartz—O prizhiznennom raspoznavanii *ong* nedostatotchnosti trekhstvortchatago klapana etc
131 (No 19) Ob amyloidykh opukholyakh conjunctivy glaza (tumors in conjunctiva) I F Pozharisky
132 27 Cases of Bone Formation Within the Eye Ibid—27 slutchaev obrazovaniya kosti vnutri glaza
133 *Primyenenie limonnokisloi myedi pri trachom (cupric citrate in trachoma) K A Sukhoff
134 (No 20) *Cholecystectomia plus Choledochotomia* A T Kablukoff
135 *Clinical Import of Cryoscopy of Urine in Case of Pleural Effusions P S Usoff—Po povodu klin znatcheniya krioskopii motchi pri ekssudativnom plevrit
136 *Influence of Diphtheria Toxins on Heart and Respiration of Animals Krasnoff—Vliyanie diph toksina na serdtze i dykhanie zhevotnykh

129 **Gonorrheal Vulvo-Vaginitis in Little Girls.**—Rudsky has had occasion to treat 14 cases, and comments on the tedious course of this affection He found that the children tolerated protargol or largin well, and he used them in a 5 to 1 per cent solution In every instance the urethra was involved and required the silver treatment Eczema of the parts and anemia were the most annoying complications He introduced the solutions into the vagina with a soft catheter His review of articles on the subject includes a list of 64, all of European origin

130 **Diagnosis of Organic Tricuspid Insufficiency Complicating Other Cardiac Affections**—The first of the three cases reported with great detail was a case of mitral stenosis plus tricuspid insufficiency, with induration in one lung, chronic tumefaction of the spleen, cardiac cirrhosis of liver and universal edema The second was one of mitral and tricuspid insufficiency, pericarditis with adhesions and arteriosclerosis The third, a case of a mitral affection with insufficiency of the tricuspid and arteriosclerosis Schwartz summarizes further 3 other cases of organic tricuspid insufficiency observed during a recent trip to Germany His conclusions from study of this material are that organic tricuspid insufficiency complicating a lesion of the orifice of the left heart, is of more frequent occurrence than is generally recognized The principal sign is the comparatively insignificant enlargement of the area of cardiac dullness toward the right, accompanying other symptoms (positive vein and liver pulse) which in case of relative insufficiency of the tricuspid valve, are usually accompanied by extreme degrees of dilatation of the right ventricle The majority of authors mistakenly expatiate on the unfailing excessive dilatation of the right ventricle as the inevitable condition which differentiates organic tricuspid insufficiency Among the auxiliary signs, secondary in importance, may be mentioned the tendency to recurring ascites and induration of the walls of the jugularis, manifested by the behavior of the pulse wave The further course of the cases confirms the correctness of the diagnosis on this basis Our knowledge in regard to the course and the influence of organic tricuspid insufficiency on the course of other cardiac defects is contradictory, confused, inadequate and even without any positive basis Further study of these questions is urgently needed, and for this it is indispensable that clinical histories should be collected and published, recording the incipient phases As a contribution to the subject he presents these 3 cases with the postmortem findings in one They contradict in certain points the statements in the text books, with the exception of Merklen's work

133 **Cupric Citrate for Trachoma**—Sukhoff's conclusions from observation of 17 patients with trachoma, treated with cuprum citricum, are to the effect that this drug is excellent for the purpose The applications are comparatively painless, and the absence of all irritating properties allows the treatment to be repeated two or three times a day, which ensures the rapid subjugation of the pathologic process He used a 5 or 10 per cent strength

135 **Cryoscopy of Urine in Case of Pleuritic Effusions**—Usoff has been testing Koranyi's assertion that a convenient means of obtaining information in regard to effusions is afforded by cryoscopy of the urine The quotient of the freezing point divided by the percentage of sodium chlorid enables the course of the effusion to be determined This quotient parallels the variations in the amount of the pleural effusion, that is, it becomes larger in case of accumulations of fluid in the body, and grows smaller as the fluids are eliminated Usoff gives the findings in 5 cases They demonstrate that the quotient is liable to vary from other causes as well, fever, fluctuations in the amount of urine, etc, and that cryoscopy, therefore, can scarcely be depended on for reliable information

136 **Influence of Diphtheria Toxin on Heart and Respiration**—Krasnoff noted paralysis of the vasomotor centers in the medulla oblongata, and of Goltz' center in the course of experimental diphtheria in guinea pigs The peripheral vaso constrictor apparatus remained unaffected The paralysis of the vasomotor centers caused progressive decline in the blood pressure at the height of the intoxication The heart, secondarily irritated in consequence of the changed conditions in the blood vessels and the asphyxia, feels the effect of the toxin independently in the final stage of the intoxication, the cardiac rhythm becoming irregular, although the excitability and functional activity of the heart are retained Acute changes in the inhibiting apparatus were also observed, passing through two phases, first extreme excitability and then, paralysis of the vagus In connection with the paralysis of the vasomotors an acute drop in the temperature was observed Death occurred from paralysis of the respiratory apparatus

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers

THE PRACTICAL APPLICATION OF THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS By William Allen Pusey, A.M M D Professor of Dermatology in the University of Illinois and Eugene W Caldwell B S Director of the Edward N Gibbs Memorial X Ray Laboratory of the University and Bellevue Hospital Medical College New York. Second Edition Thoroughly Revised and Enlarged with 195 Illustrations Including Four Colored Plates Cloth Pp 690 Price $5 00 net Philadelphia, New York London W B Saunders & Co 1904

RADIOTHERAPY PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS The Medical and Surgical Applications of Radiology in Diagnosis and Treatment By Charles Warren Allen M D Professor of Dermatology in the New York Post Graduate Medical School With 131 Engravings and 27 *Plates* Cloth *Pp 618 Price, $4 50 net* Philadelphia and New York Lea Brothers & Co

NORMAL HISTOLOGY By Edward K Dunham Ph B M D Professor of General Pathology Bacteriology and Hygiene in the University and Bellevue Hospital Medical College New York Third *Edition Revised and Enlarged* Illustrated with 260 Engravings. Cloth Pp 334 Price $2 75 net New York and Philadelphia Lea Brothers & Co 1904

A TEXT BOOK OF PATHOLOGY By Joseph McFarland M D Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia With 350 Illustrations a Number in Colors Cloth Pp 818 Price $5 00 net Philadelphia, New York, London W B Saunders & Co 1904

ILLINOIS STATE BOARD OF HEALTH REPORT OF SANITARY INVESTIGATIONS OF THE ILLINOIS, MISSISSIPPI AND MISSOURI RIVERS with Relation to the Effect of the Sewage of the City of Chicago and the Sanitary Conditions of the Water Supplies of the Cities of Chicago and St Louis Cloth

BACTERIOLOGICAL AND CLINICAL STUDIES OF THE DIARRHEAL DISEASES OF INFANCY with Reference to the Bacillus Dysenteriæ (Shiga) from the Rockefeller Institute for Medical Research Paper Pp 202 Edited by Simon Flexner, M D and L Emmett Holt, M D 1904

A PHYSICIAN'S PRACTIAL GYNECOLOGY By W O Henry M D Omaha Neb Professor of Gynecology in the Creighton Medical College With 5 Full page Illustrations and 61 Illustrations in the Text Cloth Pp 220 Lincoln Neb *The Review Press* 1902

REPORT OF THE HEALTH OFFICER OF THE DISTRICT OF COLUMBIA, 1903 Cloth Pp 300 Washington Government Printing Office 1903

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Original Articles.

FURTHER STUDIES OF THE INTRACELLULAR BACTERIAL TOXINS *

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For the past eight years much of my time, so far as it could be given to research work, has been devoted to a study of the intracellular toxins of bacteria, and the purpose of this paper is to briefly state what I have accomplished along this line, and to formulate the theoretical conceptions that have grown out of this investigation In this work I have been aided by several most competent assistants and students, all of whom have labored without any remuneration worthy of mention, except that which comes to everyone who engages in scientific research intelligently and conscientiously In 1896 Perkins and I[1] reported the presence in a toxicogenic bacterium found in poisonous ice cream of an active body that proved to be soluble in alcohol, and in this respect, at least, as we shall see later, similar to the toxins which we have recently been studying

In 1900, with McClymonds,[2] I was able to demonstrate that the colon germ, so frequently found in cheese, produces no soluble poison, but that the cell substance is markedly toxic The bacterial cells were steamed and subsequently exposed for several days at 37 degrees to artificial gastric juice without destruction of their toxic properties In 1901, with the aid of Cooley and Gelston,[3] I was able to make substantial advances The large tanks, so necessary in order to obtain bacterial cell substance in large amount, were devised and put into operation Without these the work since accomplished could not have been done, because the production of large amounts of bacterial cell substance free from constituents of the culture medium and free from contamination was essential before the chemistry of the cell could be successfully investigated In a paper before the Association of American Physicians in 1901 I was able to make the following statements concerning the toxin of the colon bacillus

1 The toxin is contained within the cell from which it does not, at least under ordinary conditions, diffuse into the culture medium

2 The toxin is not extracted from the cell by alcohol or ether

3 Very dilute alkalies do not extract the toxin from the unbroken cells

4 The unbroken germs may be heated to a high temperature with water without destruction of their toxin

5 Boiling with a 0 2 per cent aqueous solution of hydrochloric acid has but little, if any, effect on the germ cell or its contained toxin

6 Heating the germ substance for an hour at the temperature of the water-bath with water containing from 1 to 5 per cent hydrochloric acid breaks up the cell and lessens, but does not destroy, the toxicity of the cell content Prolonged heating may render the toxin inert

In the paper referred to I spoke several times of the bacterial cell wall, a structure which I am now satisfied has no existence

In 1902 my students were able to make the following advances

(*a*) Detweiler[4] showed that the cellular substance of micrococcus prodigiosus, bacillus violaceous, and sarcina aurantiaca and sarcina lutea contains poisonous bodies

(*b*) Wheeler[5] demonstrated the presence in the cell substance of sarcina lutea of two carbohydrates, a nuclein body yielding xanthin basis (since obtained in crystalline form), and a proteid yielding hexon bases (also since obtained in crystals), thus showing that the cell is made up largely of a glyco-nucleo-proteid molecule

(*c*) Leach[6] split up the colon bacillus, and proved that it also contains in its molecular structure carbohydrates, nuclein and proteid

(*d*) Marshall and Gelston[7] determined with great accuracy the toxicity of the colon germ substance, and showed that with this immunity could be obtained, although it was neither marked nor permanent The germ substance is moreover, not a favorable agent to employ in inducing immunity on account of its insolubility

(*e*) Gelston[8] found an intracellular toxin in the bacillus of diphtheria, and showed that commercial antitoxin gives no protection against the intracellular poison

(*f*) J Walter Vaughan[9] demonstrated, contrary to the findings of all other investigators along this line that the anthrax bacillus does produce a poison, and that it is intracellular

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Pathology and Physiology and approved for publication by the Executive Committee

[1] Ein in Eiscreme und Käse gefundener giftproducirender Bacillus Archiv f Hygiene 1896 xxxiii 308

[2] Bacteriologic Poisons in Milk Jacobi Festschrift, p 108

[3] The Bacterial Toxins Trans Assn Amer Phys 1901 The Toxin of the Colon Bacillus THE JOURNAL A M A Feb 23 1901 Amer Med May 1901

[4] The Toxicity of the Dry Sterile Cells of Certain Non pathogenic Bacteria Trans Assn Amer Phys, 1902

[5] The Chemistry of Sarcina Lutea Trans Assn Amer Phys 1902

[6] The Chemistry of Bacillus Coli Communis Trans Assn. Amer Phys 1902

[7] The Toxicity of the Cellular Substance of the Colon Bacillus Trans Assn Amer Phys 1902

[8] The Intracellular Toxin of the Diphtheria Bacillus Trans. Assn. Amer Phys 1902

[9] The Anthrax Toxin, Trans Assn Amer Phys 1902

In 1903, Wheeler[10] made some investigations which in my opinion, have thrown much light on the problem, inasmuch as they lead to the suggestion that the bacterial cell is essentially a chemical compound of definite and constant composition It was found that when the cellular substance is extracted with dilute acids, the portion split off is practically the same whether 0 1 or 1 per cent acid be employed Furthermore, it was demonstrated that the amido-nitrogen split off with acid is the same, whether 1 per cent, 5 per cent, or 33 1/3 per cent sulphuric acid be used

Leach[11] obtained additional information along the same line by the action of mineral acids on the colon bacillus

McIntyre[12] applied my methods to bacillus pyocyaneus, and demonstrated the existence of an intracellular poison in this organism

Munson and Spencer[13] showed that the hepatic cells of vertebrates may be split up with the production of a poisonous group

During the present year, Wheeler and I have been able, by acting on the germ substance with sodium alcoholate, to split off and obtain in soluble form highly poisonous groups This has been accomplished with the colon, typhoid and anthrax bacilli, and with all of these we have produced antibodies which neutralize the toxin, but so far we can not speak with certainty concerning their antibacterial action The colon toxin immunizes guinea-pigs against both itself and the living germ, but with the other organisms experiments have not been carried far enough to justify a statement one way or the other The colon toxin split off from the germ substance is still a complex body, and gives the biuret and Millon reaction It is freely soluble in water and absolute alcohol and insoluble in ether, petroleum ether and chloroform The alcoholic solution as obtained from the germ substance by the action of sodium alcoholate contains two bodies, or rather two groups of bodies, one of which is poisonous, while the other is not actively so, at least The toxin is precipitated from alcoholic solution by platinum chlorid, while the non-toxic body is left in solution Of the mixture of the two obtained by evaporation of the alcohol in vacuo 8 mg is the minimum lethal dose for guinea-pigs weighing from 300 to 400 grams, but only 15 per cent of this mixture is toxic This makes the minimum lethal dose of the toxin between 1 and 2 mg, or one part to from 300,000 to 400,000 parts of body weight of guinea-pig By administering gradually increased doses of this toxin, guinea-pigs are immunized, and when such immunized pigs receive 2 c c of a twenty-four-hour culture of a virulent colon bacillus, they are but slightly affected, while controls invariably die within from ten to twenty-four hours

That this is the specific toxin of the colon bacillus it seems to me there can be no doubt, because it gives immunity in the guinea-pig at least, to both dead and living cultures of the germ This toxin is, I believe composed of a haptophore and a toxophore group Concerning the nature of the former, I am not prepared as yet to express an opinion There are certain reasons for suspecting that the toxophore group is a neurin These reasons are both chemical and physiological Neurin is a highly poisonous body that is not decomposed on being boiled with sodium alcoholate, so is the colon toxin Neurin acts on the respiratory center and arrests the respiratory movements, while the heart continues to beat normally This is especially marked with our toxins, those obtained from the colon, typhoid and anthrax bacilli, most marked with the last mentioned When this poison is injected intravenously in doses of a fraction of a milligram, the respiratory movements cease immediately, while the heart continues to beat for five minutes or even longer It will be understood that these are only suggestions that the toxophore group is a neurin body They are by no means proofs and I hold the right to change my opinion on this point after further investigation As Behring has suggested the toxophore group may be the same in a number of different pathogenic bacteria.

When the dried colon germ substance is heated with sodium alcoholate, about one-third of the cellular substance goes into solution in the alcohol, while the rest of it remains out of solution All the toxin is dissolved in the alcohol, provided the extraction be repeated three or four times, but, as has been stated, of the one-third of the germ substance that goes into solution in the alcohol, only about 15 per cent is toxin

The part of the cell substance insoluble in alcohol is soluble in water, wholly on addition of traces of acid, and while non-poisonous, it is scarcely less interesting than the toxic part The aqueous solution contains a hemolysin and a group that splits up the hemoglobin into hematin and a globulin The hemolysin is precipitated from the aqueous solution by the addition of acid and the application of heat It is thermo-stable and can be heated to 110 degrees without appreciable loss of its hemolytic properties This promises to give us a rare opportunity of finding out something more definite than is known up to the present time concerning the nature of hemolysins I may say that traces of hemolysin have been previously found in colon cultures, and have been studied by Kayser,[14] who also found it to be thermo-stable This hemolysin is not active at low temperatures, and requires an incubation period before it manifests its effects So far as I know, this is the first time that it has been demonstrated that a hemolysin can be obtained by splitting up the bacterial cell with chemical agents It will probably be found that bacterial hemolysins are chemical groups in the bacterial molecule, and that those found in solution in culture media result from the normal disintegration of the bacterial molecule, which is always taking place with more or less rapidity I know of no previous observation of the group that splits up the hemoglobin molecule with the formation of hematin This body is now being investigated by Cooley in my laboratory, and a report of the work will be made later

Uniformly the bacterial toxins, so far as we have studied them, lower the temperature of guinea-pigs This is true of both fatal and non-fatal doses If the cellular substance of the colon bacillus be thrown into the abdominal cavity of a guinea-pig, the temperature begins to fall within two hours, and continues to do so as long as the animal lives, provided the dose is a fatal one If at any time the temperature ceases to fall and begins to rise, even after it has fallen below 95 F, the recovery of the animal can be safely predicted When the split-off toxin is injected the fall begins in a few minutes and continues to do so if the animal dies In case of recovery, the moment of change for the better is indicated by the beginning of a rise of temperature This matter also, as well as the destruction of the bacillus in the peritoneal cavity of immunized animals, is being studied in detail by V C Vaughan, Jr, and we hope to give more accurate information concerning the relation of the infectious diseases to temperature

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[10] The Action of Mineral Acid on the Cellular Substance of Bacillus Typhosus, The Journal A M. A, 1904, xliii, 1000

[11] The Chemistry of Bacillus Coli Communis, Ibid p 1003

[12] The Intracellular Toxin of Bacillus Pyocyaneus, The Journal A M A 1904, xliii, 1073

[13] The Extraction of a Toxin from Liver Cells, The Journal A M A, 1904, xliii, 1075

[14] Ueber Bakterienhämolysine in Besonderen das Colilysin Zeitschrift f Hygiene 1903 xl 118

When the sterile germ substance of the colon bacillus is thrown into the abdominal cavity of a guinea-pig, a hemorrhagic peritonitis results When the split-off toxin is used in the same way death results, provided the dose be large enough, in a few minutes, and there is no evidence of irritation of the peritoneum When the dose is not fatal, recovery from the split-off toxin is apparently complete within two or three hours When the soluble toxin is injected intravenously death occurs within from five to twenty minutes, or with very minute doses there is no apparent effect

CONCLUSIONS

The investigations which I have hastily outlined have led me to the following conclusions

1 The colon bacillus in its essential part is a chemical compound as truly as sodium sulphate or phenylhydrazin.

I have been convinced of this by the following facts ascertained in our investigations

(*a*) When treated with dilute mineral acids, the body split off from the germ substance is uniform, both qualitatively and quantitatively, whether the acid employed be 0 1 per cent. or 1 per cent

(*b*) The amount of amido-nitrogen split off is the same, whether 1 per cent, 5 per cent, or 33 1/3 per cent. sulphuric acid be used. These findings indicate that the germ substance has a definite chemical composition, and that cleavage occurs along a definite line under the influence of the acid That the toxic, hemolytic, hemoglobin splitting, carbohydrate, and other groups are chemically combined in the cell, is indicated by the fact that they are not extracted by agents acting physically as solvents, but are separated only by those agents that split up molecules

2 The colon bacillus is a chemical compound, in whose molecule we have demonstrated the existence of the following groups Nuclein, amido, diamido, mono amido, carbohydrate, toxic, hemolytic, and hemoglobin splitting Graphically, we may represent the colon molecule as in Figure 1

There may be, and probably are, many other groups, then, each of these may, and probably does, contain subgroups Besides, these groups are attached to one another to form a highly complex molecule, and the lines along which the molecule splits up depend on the kind and the amount of the energy applied The force with which these groups are held in the molecular whole varies in strength,-consequently some groups are easily split off, while others are separated only under the influence of relatively powerful agents The toxic group in the molecule of some pathogenic bacteria drops off in the presence of moisture and at a temperature of 37 C This is true of those germs, such as the bacilli of tetanus and diphtheria, that are said to form soluble toxins. Many germs also have hemolytic groups which become detached from the molecule under similar conditions Some of the groups in the bacterial molecule are essential to the vitality of the cell Such I suppose to be the case with the nuclein group, while others are not essential The latter is probably true of the toxic group in certain bacteria, and this explains the fact that most pathogenic bacteria can be attenuated by growth in certain media, or under certain unusual conditions of temperature

3 Every cell in the animal body contains complex molecules similar to those of the bacillus As has been stated, my students, Munson and Spencer, have shown that a poison can be split off from the liver cell by the action of dilute mineral acids, and next year I hope to study the action of sodium alcoholate on these and other cells of the animal body

4 The reaction of the colon molecule and a body molecule or cell is chemical, just as much so as that between sulphuric acid and calcium carbonate When these two molecules are brought within the range of chemical attraction, if the chemism between a group in the one and a group in the other is greater than that which holds these groups in their respective molecules, a reaction takes place Each group is split off from its molecular combination, and the two combine to form a new molecule, and the injury done the bacillus or the cell depends on the group that has been abstracted No bacillus molecule can do the body cell harm unless such a reaction takes place It also follows that a toxin split off from a bacterial molecule and injected in the free state into an animal does harm, or breaks down the body molecules more promptly than when the unbroken bacillus is introduced, as sodium chlorid is not a poison, but if it be broken up into its constituent base and acid either of these, when introduced into the body, destroys the first cells with which it comes in contact This is, I think, nicely illustrated with our colon toxin The living culture or the dead germ substance, when placed in the abdominal cavity of a guinea-pig, requires from ten to twenty-four hours to kill, because the colon molecule must be split up before the toxic group becomes active, but when the free toxic group is employed, it may kill within as many minutes, because it is ready to combine with groups in the cell instantly on coming within range of their chemism Moreover, when the free toxin or toxic group is thrown into the abdominal cavity, it requires a longer time to kill than when injected intravenously because, in either case, it reacts with the cells with which it first comes in contact, and with which it is capable of combining When injected intravenously, some part of the free toxic group comes in contact with the cells of the respiratory center, and death, or at least arrest of the respiratory movements is almost instantaneous

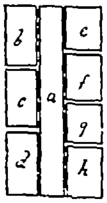

Fig 1

a = Nuclein group
b = Amido group
c = Diamido group
d = Monoamido group
e = Toxic group
f = Hemolytic group
g = Hemoglobin splitting group
h = Carbohydrate group

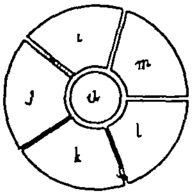

Fig 2 —Body cell

5 If this conception of the reaction between bacillus and cell be true, the formation of antitoxins is capable of an explanation, which seems to me simpler than any yet proposed This may be illustrated by the accompanying figures

Suppose that the chemical attraction between group "e" in the bacillus molecule, and group "m" in the cell molecule, is greater than that which holds these groups in their respective molecules then these groups will be broken away from their molecules and unite to form a new molecule, which, being saturated and stable, is not harmful The injury done to the cell will depend on the importance that group "m" bears to the functioning power of the cell, and the injury done to the animal depends on the number of cells whose physiologic function is thus interrupted I take it that a true toxin—understanding this term to apply only to those agents which are capable of producing antibodies in the animal organism—does not completely destroy cells It injures animal cells, but leaves them in such a condition that they can repair themselves Indeed, it seems to me that no other explanation is, at present, at least possible, because the formation of the anti-body is dependent on this process of repair, and an agent that destroys the body cells of the animal is a poison, but not a toxin It is not only possible, but probable, at the present time, that at least one pathogenic organism the tubercle bacillus, produces a poison which is not a toxin In the case of the toxins which I have been studying, I would explain their lethal effects on the animal as follows The toxic group of the cell has a special chemical affinity for a certain group of the body cells that control respiration It does not destroy these cells, but throws a certain number of them out of commission, so to speak, and if this number be great enough, respiration ceases and the animal dies However, careful tracing of the respiratory movements, before one commits himself positively to this theory, will be necessary I can not resist the temptation of suggesting the possibility that a cell toxin leaves the nuclein group of the cell intact, while the cell poison breaks up this group, and consequently permanently destroys the cell and renders the formation of an antibody impossible

When the toxin is introduced into the body the injured cell, by virtue of its chemical attraction, repairs its loss by splitting off from the nutritive substances within the range of its chemism groups of "m," and in doing this it splits off more "m's" than it can use, and the excess becomes the antitoxin of the blood serum With this exception it is easily understood why the number of antitoxins that may be formed is practically unlimited in number and why each is specific As group "e" in no two kinds of bacterial cells is identical, the group split off from the body cell will not be identical

In concluding, I wish to express my high appreciation of Ehrlich's theory In my opinion it is the most valuable theory ever presented to scientific medicine and deserves to be ranked with the theory of gravitation and with that of ether, and I think that it is not too much to say that its author has done more to stimulate scientific research than any other man in the profession and it is with much hesitation that I have suggested the modification of Ehrlich's theory set forth in this paper The ideas which I have expressed have grown out of a study of Ehrlich's theory, and if there be in these ideas anything of a permanent value, I hope that they may be considered a tribute to his genius While on the other hand, if my suggestions prove to be without value, they can not in any way, detract from the honor due him whom all workers in this line regard as the master

The details of experimental work done in my laboratory along the lines of this paper will appear in later papers in The Journal

DISCUSSION

Dr James J Terrill, Galveston, Tex —If the cell were rotated and the "m" band as represented in Dr Vaughan's diagram—if that cell is capable of replacing that "m" with, say, one, two or a hundred times, why is it not possible that the body which contains "e" (the colon bacillus, for instance, which still retains, according to this theory, its nucleus separate and intact)—why does not that have the power of replacing this "e" one, two, three and a hundred times, and therefore nothing be gained in this matter? I would like to put that question to Dr Vaughan and hear his explanation of his theory

Dr Joseph Clements, Nutley, N J —We have before us a great problem—that of infection and immunity We have the facts, by the interpretation of which we are to solve this great problem, and these facts are of two kinds—first, the protoplasmic activities of the organism in which the infection or immunity is to obtain, then the other factors (which I may term the external factors), which are the so-called germs and toxins Are we not looking too much at one end of this question? Are we not dealing too much with the external parts of the factors, to the exclusion, somewhat, of the other—the more important—part, which is the protoplasmic activities, so that we can not really and absolutely and correctly interpret the phenomena on this principle and this basis? We shall have to turn our attention a little more to the other side of it—to the protoplasmic activities of the organism in which this great problem is being worked out

Dr Henry Sewall, Denver —If I have rightly understood my studies in immunity, the treatment of bacterial substances with hydrochloric acid is one of the means by which toxins are turned into toxoids I would like to know if Dr Vaughan's researches have not thrown some light on the essential difference between the toxin and the toxoid It would seem as if the difference between poisonous activity and the production of immunity might be cleared up by such work as this

Dr S J Meltzer, New York City—One of the constituent chemical groups of the colon bacillus was designated by Dr Vaughan as hemolytic These groups were obtained after the bacterial bodies were exposed to the chemical action of sulphuric acid Hemolysis can be produced by many different methods For instance, by osmosis, as in the hemolysis caused by water or any hypotonic solution, or by chemical actions, as in the effects of bile acids, etc , or by biologic methods, as in the effects of alien serum In the last case the hemolytic effect is not due to osmosis nor to any known chemical action, it is, so to say, a vital phenomenon I wish to call attention to the difference between the hemolysis of the colon bacillus spoken of by Dr Vaughan and the bacterial hemolysis spoken of by other bacteriologists The hemolytic effect of the tetanus bacillus is a purely biologic phenomenon and is equal in its effect to that of alien serum, while the hemolytic effect of the profoundly disintegrated colon bacillus is apparently only of a chemical nature Dr Vaughan tells us that a colon bacillus is nothing but a chemical mechanism It consists of six definite chemical groups, perhaps more, but the bacillus is nothing but a combination of these groups We know that all living organisms contain a good many chemical groups Does Dr Vaughan mean to convey the view that the colon bacillus consists of nothing else but these chemical groups? Perhaps I misunderstood him But if this is, indeed, his view, then I for one would not be converted to it until Dr Vaughan, or someone else, succeeds in creating a colon bacillus by putting together all the constituent chemical groups without the aid of a living bacillus—were the creation only a very modest colonculus Until then I will be grateful to Dr Vaughan and other eminent chemists for establishing many more definite chemical groups as constituents of living organisms, but will stick to the belief that these organisms possess beside the chemical groups, some other factor which for a great many years to come we will have to designate as vital

Dr Victor C Vaughan—I shall answer as best I may these questions The one about the possibility of the colon bacillus rebuilding itself is an interesting and proper question This is exactly what does happen when the bacillus grows in the body In the animal that is not immune, the colon bacillus builds itself and continues to elaborate poison until it kills

In regard to Dr Meltzer's question, I may say that I am not trying to solve the problem of life I am studying the material of which the colon bacillus is composed The question of the origin of life is too big for me to undertake to discuss I imagine that life is something more than matter, and, as stated before, I am simply discussing the material out of which the cell is built I have used the term hemolysis, not in a biologic but in a chemical sense, and exactly as I understand it has been largely used by Ehrlich and all others working on this subject I can precipitate the hemolysin, wash it free from other substances, put it into the blood and study its action I have certain reasons for believing that there is a toxoid group in the colon cell This point I have not gone into in the paper but hope to do so in a later communication I have formulated the theory which I have offered because some theory is necessary in order to do systematic and scientific work

Dr **Winfield S Hall**, Chicago—I have been very deeply impressed with the character of this work which Dr Vaughan and his associates in his department have been doing for a number of years, and I feel that this Section is very highly favored in receiving from Dr Vaughan so clear a statement of the work that he has done and of the hypothesis on which he is working for future results I can not help feeling that in this work he is really laying the foundation of a broad, scientific basis for the whole subject of toxins and of immunity and immunization I believe that the discovery of diphtheria antitoxin was a chance discovery Several of these discoveries have been made, but the relation of these individual toxins and antitoxins the one to the other has been purely hypothetical I believe that the work of Professor Vaughan and his associates will result in clearing up this whole subject now only hypothetical, and in giving to the world a science of immunization I wish to offer a resolution, not of thanks, but of appreciation Dr Vaughan is not working for thanks, but appreciation helps along a little occasionally, and I move a vote of appreciation to Dr Vaughan and his department for this epoch making work that he is doing

[The resolution was adopted by a unanimous vote]

PRIMARY MALIGNANT ENDOTRACHEAL TUMOR

PRELIMINARY REPORT *

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This case is of interest from not less than three standpoints First, that of the physician, because of the importance and extreme difficulty of diagnosis, second, that of the surgeon, because the treatment is purely operative, and third, that of the pathologist, not only because of the rarity of malignant growths in this situation, but because of the histologic structure of this tumor This paper is directed especially to the pathology

Primary tumor of the trachea is exceedingly rare, and according to Scheuer,[1] but 22 per cent of these are primary malignant growths

Sir Morell Mackenzie,[2] after sixteen years of experience, saw but four cases of tracheal tumor, and it is probable that but one or two of these were primary and malignant

Only twenty-eight cases of this disease are reported, most of which were discovered at autopsy in Germany or Austria

In 1882 Delafield[3] reported a case of primary carcinoma of the bronchi, which invaded the trachea to a very slight extent A number of cases of secondary invasion of the trachea by laryngeal carcinoma have been reported A careful search through American medical literature failed to disclose a case of primary malignant endotracheal tumor

History—The patient, a woman, aged 34, married, living in a malarial district, had always enjoyed good health until the present trouble began, although her husband, a physician, observed that she had been rather pale during the past year or two

In the summer of 1903 a slight cough began, uninfluenced by treatment, and in August dyspnea and expectoration were superadded The sputum was thick, tenacious, blood stained and mucopurulent, reaction neutral, and showed, microscopically, squamous epithelium, blood, diplococci, staphylococci, streptococci, but no pneumococci, tubercle bacilli nor yellow elastic tissue A second examination gave similar results and the quantity for twenty four hours was 400 c c There was no fever and these symptoms gradually increased in severity until Nov 27, 1903, when she was seen for the first time

General Examination—The dyspnea was extreme, of the inspiratory type like that observed in laryngeal obstruction Each inspiration was prolonged, labored and accompanied by insinking of the supraclavicular and infraclavicular fossæ and retraction of the base of the thorax. The rate of respiration and pulse was usually about normal

The constant struggle for breath, interrupted by frequent paroxysms of coughing, caused sleeplessness and exhaustion A few bronchitic râles were heard over both lungs, otherwise the examination of thoracic and abdominal contents and urine was negative

Laryngoscopic Examination—This examination, which was rendered extremely difficult by the dyspnea and paralysis of the right vocal cord, showed a swelling in the lower portion of the trachea, the surface of which was the same color as the tracheal mucous membrane This swelling was erroneously interpreted as indicating external pressure on the walls of the windpipe Two fluoroscopic and skiagraphic examinations gave negative results As an absolute diagnosis was impossible, a probable diagnosis was made of a tumor, possibly aneurismal, pressing on the trachea in the region of the innominate artery An exploratory operation was advised, but was declined by the patient (The autopsy demonstrated that this probable diagnosis was erroneous) The prognosis was absolutely unfavorable

Death—A few weeks later aspiration bronchopneumonia occurred, accompanied by a fever ranging from 101 2 to 103 8 degrees F, which disappeared on the ninth day Suffocation and exhaustion, preceded by deep cyanosis, caused death on Jan 1, 1904, seven months after the onset of the first symptoms

Autopsy—The autopsy was performed ten hours after death The brain and spinal cord were not examined, and there was no thoracic aneurism nor tumor With the exception of a tracheal bronchitis the examination of the thoracic and abdominal contents revealed nothing of importance

At or about the lower third of the anterior wall of the trachea was a papillomatous tumor about the size of the distal phalanx of an adult finger, which extended almost to the bifurcation of the trachea and measuring 5x3½ cm This tumor caused extreme stenosis and occupied more than three-fourths of the lumen of the tube.

Immediately beneath this growth were a few moderately enlarged glands about the size of a marrowfat pea, which were firmly adherent to the outer wall of the windpipe This region corresponds to the place where the innominate artery comes in close relation with the trachea, at which point the recurrent laryngeal nerve was compressed by the enlarged glands and inflammatory exudate

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs V C Vaughan Frank B Wynn and Joseph McFarland.

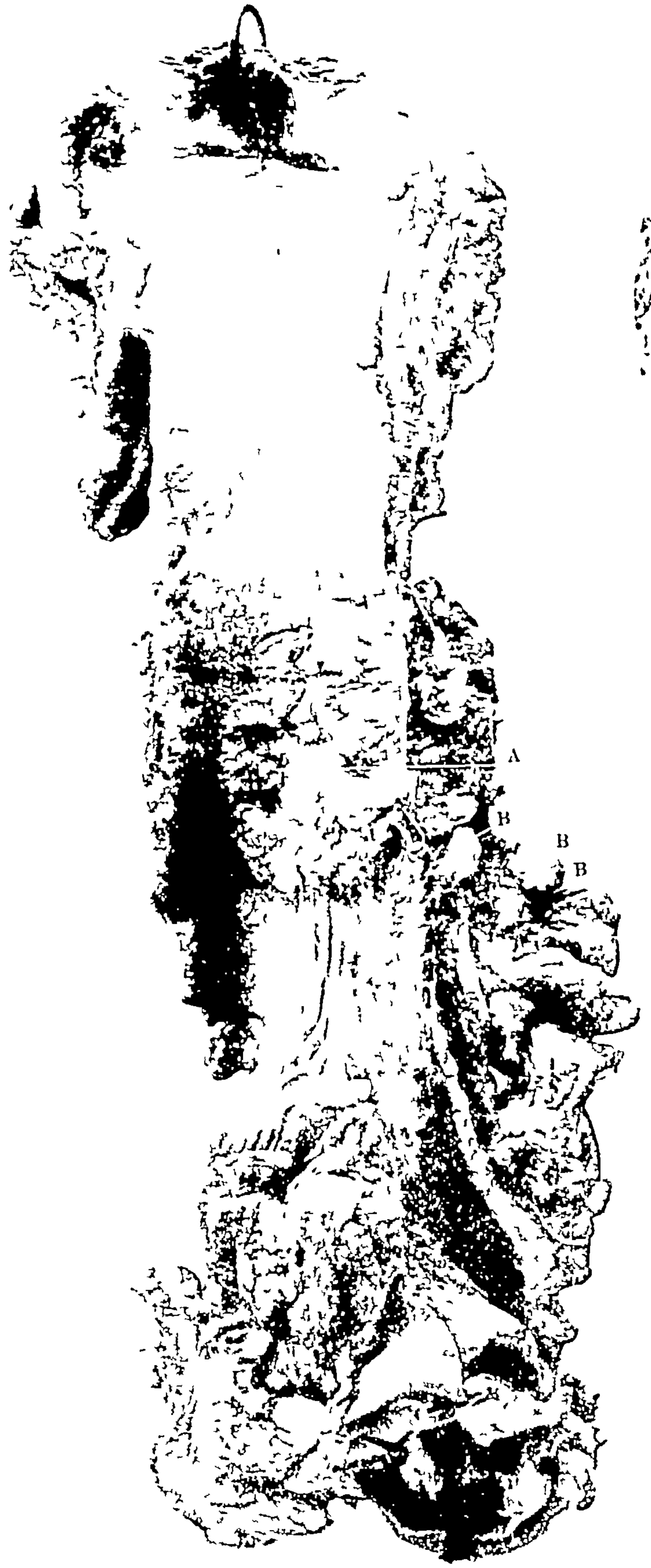
[1] Ueber tracheal Tumoren Inaug Diss Muchen 1893

[2] H Crutchley London Lancet 1884 vol ii p 822

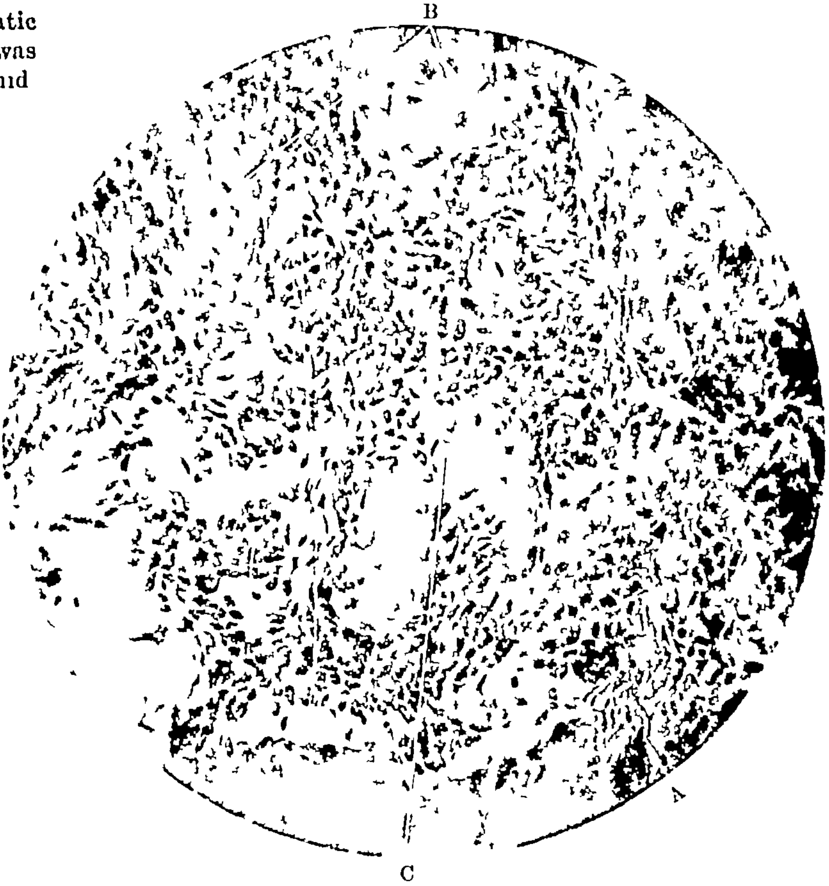
[3] New York Med. Jour and Obst. Rev 1882 p 406

PATHOLOGIC EXAMINATION BY DR. JOSEPH McFARLAND

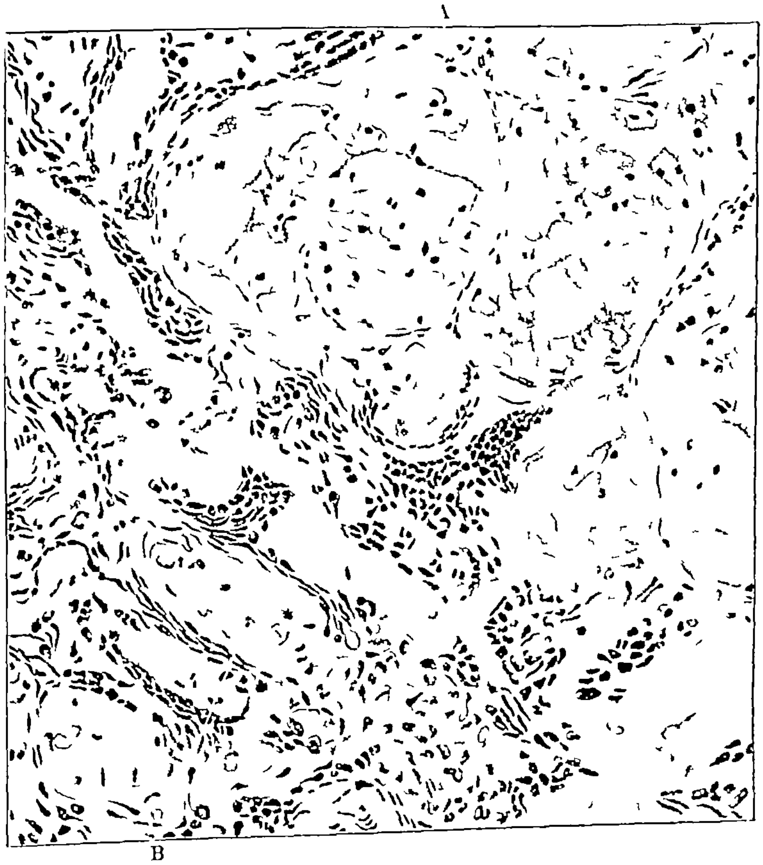
Macroscopic Examination —The specimens submitted for examination consisted of the larynx, trachea, the upper extremities of the bronchial tubes, with the adjacent lymphatic glands and tissues of the roots of the lungs The trachea was opened posteriorly so as to reveal on the anterior wall midway between the cricoid cartilage and bifurcation a fairly well circumscribed neoplasm This formed for the most part a somewhat flattened, tabular swelling, whose greatest diameter was about 5 cm and least diameter about 3½ cm The surface appeared villous when the specimen was first examined in physiologic salt solution, but became slightly roughened



Trachea cut open longitudinally showing the tumor just above the bifurcation Its originally villous character has been lost through the action of the preserving reagents The color corresponded exactly with that of the tracheal mucous membrane (About natural size) A, The tumor, B, lymphatic nodes of which two were infiltrated



Section through the superficial portion of the tumor showing the villous connective tissue prolongations (A) the nests of cells (B) and a peculiar cornified cell (C) (x400)



Section through the base of the tumor showing the disorganizing mucous glands (A) in the upper right hand half of the drawing and the squamous epithelium composing the tumor itself in the lower left hand half of the drawing (x500) Nests of squamous cells (B) after having been placed for exhibition in Zenker's solution

The tumor had the same pinkish color as the mucous membrane of the trachea There seemed to be no ulceration, the right half of the tumor, consisting of two fairly good sized nodes must have considerably obstructed the lumen of the tube during life The borders of the growth were, therefore, slightly elevated and differentiated from the normal tissue. When a section of the tumor and tracheal wall was made, it was found that its extension into the substance of the trachea was accompanied by loss of substance, that the cartilage rings of the organ had disappeared and that its wall had been reduced to the layer of connective tissue The lymphatic nodes about the bifurcation of the tumor were slightly enlarged, and one at least presented small nodes as if from secondary invasion by the tumor, and on microscopic examination this was found to be correct. The nodes thus invaded were immediately beyond the tumor and were adherent to the trachea wall A portion of the esophagus, fortunately that part underlying the tumor, had been removed together with the trachea, and when opened showed no abnormality There seemed to be no connection whatever between the neoplasm of the trachea and the tissues of the esophagus

Microscopic Examination.—Examination of the microscopic section with the hand lens showed that the cartilaginous rings of the trachea were not completely destroyed beneath the tumor, but that the tumor invaded the trachea wall between the cartilaginous rings and partly surrounded them Under the microscope the entire structure of the mucous membrane was disturbed by the neoplasm In the lower layers of the mass were found mucous glands not showing any marked departure from the normal, but these glands seemed to extend upwards into the tumor mass, and as one followed them in this direction their cells became more and more degenerated until rounded openings devoid of cells were occasionally observed.

From the connective tissue of the tracheal wall prolongations extended inward, branching so as to have a dendritic appearance These were covered by layers of epithelial cells of a peculiar flattened spindle shape, the superficial layers of which were in process of active desquamation In the depths of the tumor this desquamation caused the spaces between the dendritic outgrowths to be filled with a seminecrotic mass of desquamated cells The interspaces between closely approximated villi not infrequently contained cells massed together in a manner suggestive of the epithelial pearls of the common forms of squamous epithelioma In these cells various peculiar inclusions may be observed The cells on the terminal branches of the villi desquamate singly and in masses, so that the surface of the tumor presents a very much frayed appearance

As has already been suggested, the invasive nature of the tumor was shown by the metastatic growths in the adjacent lymph nodes, in one of which there was a nodule ½ c in diameter, distinctly circumscribed and corresponding in all its histologic details with the primary growth The situation of the tumor, the peculiarity of the cells of which it was composed, the partial cornification of the cells, suggest that the tumor had developed from an inclusion of esophageal epithelium in the wall of the trachea during embryonal life, and we are lead to believe that this is the true explanation of the origin of the growth

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The Word Neurasthenia.—The *Lancet*, April 30, begins an editorial article as follows "Invented by Beard, of America, in the 'sixties' to describe and to include a class of nervous affections more common in America than elsewhere, the term 'neurasthenia' has been used with great elasticity," etc. It is true that we owe much of our knowledge of neurasthenia to the late Dr Beard, but he did not invent the word, says the (N Y) *Medical Record* Old Ludwig Kraus defined it in his "Kritisch etymologisches medicinisches Lexikon," the third edition of which was published in Göttingen in 1844 long before Beard dealt with the subject

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REGENERATIVE CHANGES IN CIRRHOSIS OF THE LIVER *

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BALTIMORE.

In the literature and in the text-books of pathology little reference is made to the evidences of regeneration in cirrhosis of the liver It is true that it is stated that regenerative changes are evident in certain cases leading to the production of adenoma-like nodular masses of liver tissue, and there is in general a tendency to regard the bile duct-like structures which occur in the fibrous bands as newly formed and as representing an effort toward the restitution of the liver to its original bulk Especial stress is, however, usually laid on the degenerative changes in the liver cells and the anatomic picture presented by a cirrhotic liver is commonly looked on as the expression of a steadily progressive destructive process

Kretz[1] only, so far as I can see in the literature at my command, has especially emphasized the importance of the regenerative changes in the ordinary type of cirrhosis and the fact that the anatomic condition as found at autopsy is probably the product of numerous attacks of some destructive affection from which the liver has more or less completely recovered He discusses these changes briefly in a variety of conditions in an earlier paper, and in his later communication speaks particularly of the disturbed anatomic arrangement of the liver tissues in cases of advanced cirrhosis and of the consequent obstruction to the circulation His attention is particularly attracted to the masses of liver tissue which he thinks are no longer to be regarded as acini since they have lost the typical architecture of the acini and the typical relation to the blood vessels He states that many of these nodules are without central veins—others have central veins at their edges, while within the nodule the capillaries are so distorted that injections through the portal vein pass more readily to the hepatic veins by way of the fibrous tissue than through their substance, and even that the blood from these masses reaches the central vein by way of the fibrous strands He regards these isolated masses of liver tissue as largely new formed and defines cirrhosis as essentially a combination of focal or localized recurring chronic degenerative processes with regeneration

All of the studies of regeneration in cirrhosis are based on the experimental work of Ponfick, Podwyssozki, von Meister and others, and the anatomic observations of Marchand, Meder, Stroebe, Barbacci and others who have investigated the late results of those destructive processes loosely classed under the name "Acute Yellow Atrophy of the Liver," in which conditions for the study of regeneration almost identical with those produced experimentally are presented

It is well established, as I have also pointed out in a previous paper,[2] that in those cases in which, after extensive destruction of the liver substance, the individual survives for a considerable time, not only is the débris of the necrotic liver substance removed and scar tissue formed throughout the skeleton of the liver thus left without cells, but the specific elements which remain evince an extraordinary power of reproducing themselves, tending by this hyperplasia to replace the lost tissue. This repair takes place according to Marchand in three ways:

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs. V C Vaughan Frank B Wynn and Joseph McFarland.

[1] Kretz Ueber Lebercirrhose Wiener klin Woch 1900 vol xiii p 271

[2] W G MacCallum Regenerative Changes in the Liver After Acute Yellow Atrophy Johns Hopkins Hospital Reports 1902 vol x.

1. By hyperplastic proliferation of the larger intact remains of the gland parenchyma.
2. By proliferation of isolated liver cell clumps or remains in the region of the most intense destruction.
3. By proliferation of the interacinous gall ducts which, in conjunction with the latter, form new liver cell strands.

Of the cell tubules making up the last group he says elsewhere that they are by no means to be considered as atrophic rows of liver cells, but are doubtless new formed. In their production not only the small interacinous ducts, but also those liver cells which have escaped destruction in the acinus take part. While the first grow from the periphery into the loose meshwork of the acinus, the isolated liver cells in proliferating provide them with new formative material.

In the case reported by me it was possible to support these views in their entirety, with perhaps the exception of the last point. That this process of the combination of sprouting bile ducts with proliferating isolated liver cells could not be seen, was doubtless due to the fact that in that particular case in the area of most intense cell destruction all the cells of the acini were destroyed or so far degenerated that they were incapable of any participation in the regenerative process and regeneration necessarily resulted from a proliferation of the bile ducts alone. I regret therefore that my statement should have been regarded by Professor Marchand as an opposition to his views,[3] since it was merely intended to describe the conditions in a special case.

I have there expressed the view that whenever the highly differentiated liver cells remain the regeneration is simply enough effected by their proliferation. Where, however, they are all destroyed the less highly differentiated but genetically identical cells of the bile ducts proliferate and subsequently become specialized in form and function until they are indistinguishable from liver cells. To what extent then can these principles be shown to be active in cases of cirrhosis?

The material at my disposal consists of those cases of cirrhosis of the liver which were found in the series of 2,300 autopsies which were performed at the Johns Hopkins Hospital, together with a few miscellaneous cases from other sources, in all sixty cases. For the present instances of cirrhotic changes in connection with chronic passive congestion, tuberculosis, syphilis, tumors, abscesses, etc., have been left out of consideration.

The general anatomy of the cirrhotic liver is so universally well known that I need not dwell on it here. The difficulty of making a sharp distinction on purely anatomic and histologic grounds between the generally established classes of atrophic cirrhosis, hypertrophic cirrhosis, etc., is also well recognized, and the clearing up of the processes under discussion may throw some light on it.

Kretz claims that a source of confusion in the study of cirrhosis of the liver lies in the tendency to explain the nodular masses which occur there on the basis of the normal acinus, whereas they are very different, the difference being largely in the loss of their central veins, a process for which he offers no satisfactory explanation.

These nodules vary greatly in size, sometimes forming masses which project above the surface of the liver or stand out sharply on the cut surface, distinct in color and consistence from the surrounding tissue. It is to these very large nodules that reference is especially often made in connection with hyperplastic and regenerative changes in cirrhosis. Often they are composed of very large masses of liver tissue with central vein and radially arranged cell strands in every way like a magnified liver lobule. In other cases, however, they are masses of numerous lobules or portions of lobules, no one of which very greatly exceeds the normal lobule in size. As we proceed to the smaller and smaller nodules there are fewer masses which resemble a complete acinus. Many consist of masses of somewhat atypically arranged cells in which no central vein can be seen. Of course these may be explained as lobules cut tangentially. Others have the central vein situated near to one side or even at the extreme margin, or sometimes one may recognize the central vein embedded in loose connective tissue at a slight distance from the edge of the nodule.

Here the question arises as to what we are to consider the true normal form of the lobule or acinus. Obviously on embryologic grounds the lobule should be the mass of tissue which is drained by the ultimate branch of the bile duct, but mainly on account of the peculiar abundance of connective tissue in the liver of the pig which outlines lobular masses, the highly irrational plan of adopting the efferent vein as the center and index of the position of the lobule has become firmly established. This, however, is justified by the very distinct demarcation of such masses of tissue and by the fact that these masses do behave more or less as individual structures under the stress of circulatory disturbances, etc. If now we inject the hepatic vein with colored celloidin and then clear up or corrode the preparation, it will be found that the vein branches very profusely and at the periphery of the liver there are even found anastomoses between the adjacent branches. Reconstructions of such a liver now show that the lobules are by no means isolated rounded, cylindrical or polyhedral masses with a single central vein, but that the liver tissue really forms a sort of thick mantle for the hepatic vein and its branches interrupted when the vein becomes too large by the approach of another similar mass (Mall). Thus a lobule has a very complicated outline and the areas of tissue which are usually regarded as cross-sections of the acinus are in reality cross-sections of a branch only of the coherent mass which in its entirety answers to the definition of the lobule in this somewhat broader conception. This, as is readily seen, is not fundamentally different from the current idea, but it is of interest in explaining some of the relations seen in cirrhosis. It is also true that in many of the acini there are side branches of the central veins, about which the liver cells are radially arranged, but which do not thereby produce much disturbance of the general outline of the lobule; with the increase of their surrounding liver cells such a system would probably constitute a branch of the lobule.

One may readily convince oneself of the truth of the statement which has been repeatedly made, that in cirrhosis of the liver there may be masses of liver cells as large in cross-section as the branches of the normal acini, which have no central vein and the cells of which are arranged in more or less parallel rows, but not radially, about such a point. Other such masses are found in which a central vein is visible eccentrically placed, sometimes even at the very margin of the mass. Sometimes one can see what appears to be a central vein in the connective tissue adjacent to the mass of liver cells Unfortunately I have had no opportunity as yet to inject the hepatic vein in an advanced case of cirrhosis of the liver, by such a method one would be able to recognize easily all the relations of such branches as had not been obliterated

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[3] Perzina: Inaug. Diss. Leipsic, 1903.

In the study of the changes after acute yellow atrophy or other destruction of a large part of the liver tissue referred to above, it was easy to reach an obvious explanation of these relations In some instances the lobules were intact, and then after the hyperplastic process has run its course large symmetrical lobules resulted with the central vein in its normal relations Of other lobules half of the tissue was destroyed, only the skeleton of the connective tissue remaining from the other half From such large masses were produced with the central vein at one margin In case only a sector of the lobule remained there ensued the formation of a larger wedge-shaped mass with the central vein at the point of the wedge Finally at any given level, all the cells of the lobule might be destroyed except a group originally situated toward the periphery Then there would arise the enlargement of this mass into a mass of irregular form, the original central vein of which might be situated at some distance in the connective tissue skeleton Now as this skeleton usually collapses to a great extent and becomes overgrown with scar tissue the central vein may become very inconspicuous or even completely obliterated, and hence the appearance of lobules or nodular masses without any central vein

Precisely this process can be demonstrated in most instances of cirrhosis of the liver more easily and plainly in the coarsely nodular forms than in the finely granular or smooth cirrhotic livers

To form a clear idea of the conditions which result from such a process single sections of the liver will not suffice The nodules which appear to be entirely isolated masses of liver cells in a single section usually prove in serial sections to be merely the outlying spurs of other ramifying, irregular conglomerates Really isolated groups of cells do occur but are relatively rare

From the study of serial sections one gains the idea that instead of the normal smoothly outlined, branching acini we have here acinoid masses with extremely irregular gnawed-out outlines, the erosions being often so deep as to expose on many sides the branching central vein or even so deep as to completely cut off portions of the lobule

Were the process to stop there this explanation would be much more evident than it is, on the contrary, regenerative hyperplastic changes occur in these injured lobules so as to restore to a great extent their rounded outlines and to bring them back to their original bulk or even to a bulk greater than that of the original lobule This occurs expansively in the remains of the liver tissue, and although if one were to model such a mass it might in outline roughly resemble the model of a normal acinus, the introduction into the model of the central vein would at once show what an extremely irregular eccentric structure such a rehabilitated lobule really is Instead of the branching central vein with its uniform mantle of liver cells we would find the vein quite exposed in places, surrounded by cells in other places and in still other places large, irregular clumps of cells might be applied to one side of it or throughout some distance be separated from it entirely

Reconstructions from hardened livers without any injection of the hepatic veins are, therefore, of relatively little value, but when a suitable case presents itself it will be possible to illustrate this point very graphically by means of a proper wax model

The radial measurement of these nodules must also afford an indication of the increase in size over the normal This could be effected best by the measurement of such a model as mentioned above in which one could be sure of measuring the line at right angles to the central vein where the lobule has its greatest radius Only the extreme measurements would be of value, for elsewhere one could not be sure whether he were dealing with the original thickness of the lobule or with the thickness resulting from primary atrophy and secondary hypertrophy The extreme measurements found in serial sections, however, where one is careful to measure the real radius (not an oblique radius) at its greatest length, will practically correspond with this, and while it must vary greatly in different cases (being often greatest in the cirrhosis of children, which is notoriously coarsely granular owing to the active power of regeneration in children), it will at least prove that enlargement has occurred So, for example, while the average radius of the lobule (i e, thickness of the mantle of cells about the central vein) in a number of normal livers was found to be about 66 mm acini were found in advanced cases of cirrhosis which measured from central vein to periphery 1 00 mm or more

Positive evidence of hyperplasia are abundantly present in these acini Cirrhosis is of course, a chronic process of long duration so that it is not surprising that in most cases mitoses are seldom seen From the study of the early stages, however, it is seen that mitosis is then extraordinarily abundant in the liver cells and that it occurs as an almost immediate sequence of the destruction of the rest of the liver cells Such necroses destroying a portion of lobule occur, as is well known and as Dr Opie has recently emphasized, as the result of a great variety of infections and toxic processes, and in one such case at least which Dr Opie has brought to my notice I was able to find numerous karyokinetic figures in the peripheral parts of the lobule, while the cells of the central part, although necrotic and devoid of nuclei were still present in almost their normal position and arrangement.

Similarly, in another case which I must regard as an early stage in the production of cirrhosis of the liver the cells throughout the remnant of the lobule, even after a certain amount of scar tissue had been formed in the periphery, were in a state of active division

Ponfick showed, as has been mentioned in the previous paper referred to, that although mitoses were abundant in the early stages after the extirpation of portions of the liver, they were represented in the later stages only by such conditions as are almost constantly seen in cirrhosis and in the regenerating liver after acute yellow atrophy, i e, the presence of two or more nuclei in a single swollen cell, the occurrence of large, clear cells with convex outline, etc Further, one may frequently observe side by side in such a mass, cells which retain the usual form and sometimes deep pigmentation, and cells which are much larger and plumper and are relatively free from pigment These latter may even form masses of thick columns so arranged in a rounded form as to compress by their expansile growth the neighboring nonproliferating liver cells One can scarcely escape the conclusion that these are new formed cells

If now we turn from the recognizable liver tissue to the remaining tissue we find conditions about which there is perhaps more ground for controversy. As to the significance of the fibrous tissue there has been much discussion, but the weight of opinion is now against the idea that it constitutes a primary new growth of connective tissue which by its contraction compresses the liver tissue and causes the destruction of that tissue, which is apparent in any advanced cirrhosis. Briefly, examination of a section of almost any advanced coarsely granular cirrhosis will show at once that part of the connective tissue is the pre-existing fibrous skeleton of the liver, for it is frequently easy to make out the collapsed framework of the lobule from which the liver cells have been destroyed and eliminated, part of it is the tissue which originally surrounded the vessels and bile ducts and part of it is new formed in the sense that a scar appears to take the place of more highly specialized tissue which has been destroyed. That this scar may by its later contraction constrict the highly specialized elements that are enclosed within it can not be denied. Beside these things which we have described there are the bile ducts and bile duct-like structures whose rôle in cirrhosis has given rise to the most active discussion. The literature on this question has been so well reviewed by Meder and others who have considered the similar or identical structures in connection with the regenerative processes following acute yellow atrophy, that it is not necessary to repeat it here. It may be well, however, to review briefly the anatomic conditions as exhibited by our series of cases.

It has been shown that the disturbance in the structure of the liver indicates that a destructive process, affecting chiefly the peripheries of the lobules, but sometimes extending so deep as to involve the whole diameter, leaves behind it a collapsed skeleton which soon becomes almost indistinguishable from the pre-existing connective tissue about the portal spaces and which, with the coincident growth of new scar tissue, is quite merged into the wide bands of fibrous tissue which run through the liver. This in itself would bring about a concentration of the pre-existent bile ducts on the disappearance or collapse of the liver lobules. The bile duct-like structures sometimes present only in small numbers, sometimes very abundant, lie for the most part in this tissue, and it is naturally of interest to us to know whether they lie in the skeleton of the old lobule or not. Since, however, the greater part of the fibrous tissue coincides with this, or is new formed, we may regard this relation as very close. The point of dispute is, therefore, whether the structures are to be interpreted as compressed or otherwise modified liver cells undergoing a retrogressive process, i. e., the remains of the injured constituents of the lobule, or as newly-formed strands arising from the bile ducts, or possibly as a combination.

Now the condition actually found is about as follows: Where the lobule is relatively intact there are relatively few bile duct-like structures at its margin communicating with the liver cell strands, as in the normal liver. Where the erosion or dismantling of the lobule has been extensive there is a wider strand of fibrous tissue and the bile duct-like channels are numerous, and one may distinguish the main bile ducts, which are unmistakable, and are lined with cylindrical epithelium. Many of these are obviously elongated and even spirally twisted and branched. Beside these there are smaller channels with narrow lumen and a lining of cubical or flattened cells. These, too, branch and sometimes anastomose and many of them are continuous with the liver cells of the adjacent side of the lobule. When the destruction of the lobules has been very widespread and the fibrous band is very wide, it is frequently found that no such connection takes place, but another change is substituted, which will be described later.

It is perfectly conceivable, therefore, that the portions of these strands in connection with the liver cells for such a distance as would correspond with the remainder of the radius of the old lobule, may represent compressed or modified liver cells, and it is not possible to bring absolute proof in all cases that this is not so. Frequently, however, the ducts are very much longer than could be accounted for in this way, and it will be decisive in this regard to search for evidence as to whether their cells are in a stage of degeneration or retrogression, or in a condition of progression or proliferation. Sometimes the strands of fibrous tissue are so narrow and the ducts so short that this latter point alone could yield a decision.

In a case which presented itself recently at the Johns Hopkins Hospital the state of the liver seems to throw some light on the process.

CASE 1.—Autopsy, 1829. This was the case of a man who died after a brief illness, in which icterus, delirium, etc., were prominent symptoms. The liver was pale greenish yellow in color, quite smooth, and on section showed the lobules very distinctly as slightly prominent, rather opaque, greenish yellow masses. The consistence of the liver was slightly increased, but there was, macroscopically, no distortion of its structure. Microscopically, there was found to be a slight irregularity in the form of the lobules, with a moderate increase in the periportal connective tissue. The liver cells in the lobules were not homogeneous in appearance, but some, chiefly the more peripheral, were greatly enlarged and so loaded with fat that the protoplasm appeared as a delicate web. The nuclei were all well preserved. The remaining cells were small and flattened, and frequently arranged in double rows so as to present a rather wide lumen. Their protoplasm stained rather deeply and was not granular to the degree seen in the normal liver. In both of these types of cells abundant mitotic figures could be seen. In the connective tissue strands, but continuous with the liver cells, there were numerous ducts, readily distinguishable from the duct like strands of liver cells in the lobule. In these, numerous mitotic figures were found. The bile ducts proper were not especially altered, but occasionally mitoses were found in their cylindrical cells.

In this case, with the typical formation of bile duct-like strands in the connective tissue, it is clearly seen that these structures are by no means degenerative in character, but are due to an active production of new cells by an intercalated mitosis. In the advanced cases of cirrhosis such distinct evidence of proliferation of the cells of the ducts is usually not to be found but the great length and tortuous branching which often characterizes them, and the good state of preservation of their cells makes it practically certain, in the light of this case and of the cases of regeneration after acute yellow atrophy, that they are due to a proliferative process. Their lack of resemblance to the elongated red staining cells so familiar as the result of compression of the liver by tumors or abscesses need scarcely be mentioned.

While these strands must be regarded as progressive in character we can not be sure that they are exclusively derived from the bile ducts. Where the case can be observed in the early stage, as in the one described, the continuity of the duct with the liver cells is often to be made out, and even when this continuity is broken through, as it must be in most instances, no greater difficulty in the reinstatement of the continuity need be anticipated than in the fusion of the edges of proliferating epithelium which approach one another to heal over an ulcer in the intestine or a wound in the skin

In the case described above there was, further, the modification in the liver cell strands, which produce an appearance something like that of the bile ducts, but since these cells were in active mitosis they could not be compressed or degenerating On the contrary, it seems probable that they should be regarded as a reversion to a less highly specialized and temporarily nonfunctional form for purposes of reproduction, and in all probability in a later stage such cells would have regained the ordinary appearance of liver cells A similar modification in the liver cells was pointed out to me by Dr Opie in another case, in which, as a result of appendicitis with generalized acute peritonitis, there was widespread necrosis of the central portions of the lobules In this case, in which death occurred so soon that the necrotic cells were all in their original position, many strands of the intact liver cells within the lobule had assumed the form described in the other case, although there was nowhere any proliferation of connective tissue and I was able to find abundant mitotic figures among these intact cells of the lobule

Thus, while we can not say absolutely that the injured liver cells in a compressed state do not constitute some part of the duct-like strands found so abundantly in the wider bands of fibrous tissue, the weight of evidence is entirely in favor of the idea that these are the result of intercalary proliferation by mitosis in the bile ducts or, perhaps, in peripheral portions of the liver cell strands which remain in continuity with the pre-existing bile duct. Where the liver cell strands are interrupted or destroyed, partial or complete collapse of that portion of the lobule results, but whatever cells are left in the direction of the large bile duct proliferate and reinstate if possible, the connection with whatever cells remain in the lobule If liver cells are left in connection with the duct they proliferate with the same end in view

This brings us to another point, perhaps the most important, in showing this proliferative power of the bile ducts in the older cases of cirrhosis Often the connection with the liver cells is not reinstated and the bile ducts are left ending blindly in the connective tissue Such ducts may often be shown to give rise to isolated bulbous masses of cells which gradually acquire the characteristics of highly specialized liver cells That they are newly formed is shown by their form, their fresh appearance, and by the lack of pigment frequently found in the adjacent old liver cells Further, it is interesting to note that one may be certain that they are actually formed from the bile duct epithelium and not merely isolated from the neighboring lobule by the fact that specialized pink-staining liver cells may be found not only in the bulbous extremity, but also intercalated singly among the ordinary cells of the ducts These are therefore, in every way like the bulbous sprouts which are described in the case of regeneration after acute yellow atrophy, and indicate very clearly not only that the so-called newly formed bile ducts really are newly formed bile ducts and not compressed liver cells, but that they possess a very considerable power of producing new liver tissue

All of these processes taken together show that we must regard the cells of the bile ducts and the liver cells as identical and equivalent as far as regeneration is concerned, and that while the liver cells are specialized for functional purposes, they are perhaps a little more ready but no more potent in the reproduction of new liver cells than the epithelium of the bile ducts It is, therefore, of little moment to determine whether doubtful cells are liver cells or bile duct cells, the essential point in this study is the proof that these cells are proliferating and not degenerating

Of the degenerative changes which are in progress throughout the cells of the lobules and of the inflammatory reaction so frequently seen in the intervening tissues I shall not speak Nor of the somewhat unsatisfactory classification of the forms of cirrhosis on anatomic grounds, although the idea is of interest that the difference between the hypertrophic or intralobular form of cirrhosis and the annular atrophic or portal cirrhosis lies in the distribution of the necrotizing process which affects the liver cells and which, as Dr Opie has recently emphasized, depends so largely on the circulation of the lobule

CONCLUSIONS

In conclusion we may state that in the ordinary type of interlobular cirrhosis there is a primary destructive process leading to the disappearance of portions of the cell mantle surrounding the central vein of each lobule The framework of the lobule persists but usually collapses, and there is produced an irregular lobular mass in which the central vein is in places left more thinly covered by the radial strands of liver cells, or even completely exposed and surrounded only by the connective tissue framework The remaining liver cells proliferate rapidly by mitosis and generally increase the size of the portion of the lobule which is left. In this process they sometimes assume temporarily almost the form of bile duct cells The connective tissue bands which run through the liver and separate these irregular hypertrophied remains of lobules consist of pre-existing connective tissue together with some which is newly formed Numerous bile duct-like canals course through these bands and it is thought that these are produced by proliferation from the pre-existing bile ducts The degeneration of compression of liver cells in the production of this appearance is not thought to be of importance That the canals are composed of proliferating cells is shown by reference to a fresh case in which mitoses were abundant in their walls and by the fact that they frequently sprout out to form isolated bulbous masses of new liver cells The bile duct epithelium and the liver cells are shown throughout these processes to be equivalent so far as the regeneration of the liver tissue is concerned

The anatomic picture presented by a cirrhotic liver is, therefore, usually one in which the regenerative processes are the most striking, the destructive process being sometimes evident, sometimes entirely past and represented only by the widespread scars

Cirrhosis of the liver may be defined as a chronic disease in which destructive processes, probably often repeated, result in a loss of the functional liver tissue immediately followed by the formation of a scar, the healing process, and later by an attempt at the restitution of the liver to normal by regenerative processes

DISCUSSION

Dr. Felix Adler, New York City—At a very early stage in the experimental cirrhosis of the liver is seen the proliferation going on in the interior of the bile ducts—larger bile ducts, common smaller bile ducts down to the very minute ones—where no liver cells could possibly go The proliferation of epithelium is followed by the widening out and distortion of the basilar membrane and finally the sprouting into branches This occurs at a very early stage for in stance, in that form of experimental cirrhosis which can be induced by the feeding of tobacco, and it bears out Dr MacCallum's theory very thoroughly that at so early a time, when the cirrhotic condition—when the affection of the interstitial tissue—is progressing and is at a very early stage, the bile ducts begin to sprout and proliferate

Dr E Libman, New York City—Some years ago I saw the liver of a child supposed to be suffering either from sepsis or hypertrophic cirrhosis, with fever, the entire period of observation only extended (so far as could be determined) over four or five weeks, and it turned out, at the postmortem, to be a case of sepsis, with abscesses of the kidneys It was interesting to know that in that liver there were in five weeks an increase in connective tissue, and many of the changes which Dr MacCallum has pointed out, it is particularly interesting because Dr MacCallum mentions that the changes can come early

Dr Joseph McFarland, Philadelphia—Did I understand Dr MacCallum to say that he thought the changes in cirrhosis of the liver were primarily necrotic and secondarily productive, or the reverse?

Dr Walter L Bierring, Iowa City—It would seem to me that we might include in these regenerative changes, referred to in connection with cirrhosis, also that condition known as cirrhosis carcinomatosis, which is a sort of adenomatous hyperplasia taking place in a cirrhotic liver There is a definite new growth of cells which resemble hepatic glandular cells, and frequently take on an atypical growth, subsequently undergoing a certain necrosis or fatty degenerative change and presenting to the naked eye yellowish white or softened areas in the cirrhotic tissue The term "carcinoma in cirrhosis" or cirrhosis carcinomatosis is usually applied to this regenerative process

Dr W G MacCallum—Although I have not paid special attention to the forms of cirrhosis resulting from biliary obstruction, the anatomic conditions in those cases which occurred in our series have been practically the same, with the exception of the addition of the continued inflammation about the bile ducts The hypertrophic or intralobular cirrhosis may perhaps be explained in the same way, excepting that there the cell's destruction has occurred diffusely throughout the lobule, leaving scattered cells from which regeneration occurs In answer to Dr McFarland's question I feel quite convinced that cirrhosis of the liver is not due to a primary growth of connective tissue, we must, with Ackermann, regard the cirrhotic liver as a condition in which a primary destruction of the liver cells has been followed by scar formation Dr Adler's observations seem to me to correspond very closely with what I was able to observe in the case of which I have spoken as an early stage of cirrhosis, and in which in the delicate bands of fibrous tissue new bile ducts in the form that Dr Adler has described, were found With reference to Dr Bierring's remarks I may refer to the paper of one of our students[1] wherein was expressed the idea, really suggested at first by Weigert, that in all probability the cirrhosis of the liver had been the result of destructive and degenerative changes, of healing, and of a subsequent regenerative process, which in Weigert's phrase had overstepped the mark and had gone on to the formation of a true tumor which could produce metastases I have been particularly interested in the early appearance of these regenerative changes to which Dr Libman refers The necrotic liver cells may still be present where abundant mitoses in the intact cells are visible Quite the same thing I think must be familiar to you all in the cases of acute nephritis in which the destruction of many epithelial cells stimulates the production of mitotic figures in those that are left, while, although regenerative changes are certainly present in the chronic nephritis, one is no longer able to find mitotic figures in such kidneys

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[1] Catherine Travis Johns Hopkins Hospital Bulletin, vol xiii, 1902, p 108

Bartholin's glands are named for Thomas Bartholin, a Danish physician, who was born at Copenhagen in 1619 and who died in 1680

HEART DISEASE AS AN OBSTETRIC COMPLICATION *

C S BACON, M D

CHICAGO

For many years heart disease has been recognized as an important disturbing complication of pregnancy, labor and the puerperium, while on the other hand, careful attention has been directed to the deleterious influences of pregnancy, labor, etc , in the causation of heart disease This subject has furnished several interesting pathologic questions that are not yet solved, and some questions of management are not yet agreed on I do not hope to add new facts, but especially to direct attention to a few points in the management of this complication that are somewhat frequently overlooked

The term heart disease is a broad one, and of course embraces many different pathologic conditions It might be of advantage to separately consider some of these different conditions, and especially to distinguish between diseases of the myocardium and those of the endocardium However, in a general paper, we may adopt the usual custom of considering together all these conditions

Heart disease may arise and develop during the pregnant or puerperal state, and be due to it, or it may have existed previous to pregnancy, and influence the course of pregnancy or labor, or be itself influenced by them An example long recognized of heart disease arising during the puerperium is furnished by cases of endocarditis resulting from puerperal infection Another condition less known is that of myocarditis resulting from the toxemia of pregnancy A parenchymatous degeneration of the myocardium is a common and characteristic finding in postmortem examinations of women dying of gravidal or puerperal eclampsia Careful study of the heart and circulation during an attack of eclampsia confirms the belief that myocardial degeneration is a common condition in eclampsia, and also probably in the large number of cases of eclamptogenic intoxication when convulsions do not supervene The lesion is of all degrees of severity from a slight cloudy swelling to a very serious fatty degeneration Corresponding to the anatomic changes the symptoms are from those of a slight disturbance of the pulse on exertion to the most serious circulatory disturbances consisting of general edema, and especially edema of the lungs coughing and spitting blood, nausea and vomiting dyspnea and palpitation The frequency of this condition, if it corresponds to the frequency of the disease, is several times as great as that of eclampsia, being found perhaps, in 1 per cent of all pregnancies

Fritsch and Loehlein have also called attention to the fact that a systolic murmur heard over the base of the heart and propagated along the vessels is found very frequently in the puerperium and occasionally during pregnancy It resembles in some ways the murmurs of anemia and chlorosis, but its mode of production and its significance are not determined

In this connection a word may be said concerning the much-debated question of hypertrophy and dilatation of the heart during normal pregnancy First Larcher and some others found, in postmortem examinations of women dying in labor, that the weight of the heart is greater than in case of the non-pregnant women These

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women and approved for publication by the Executive Committee Drs J H Carstens A Palmer Dudley and L H Dunning

data have been questioned, but more carefully made examinations have shown some increase in weight of the heart in pregnancy The efforts of Ducrest and others to measure the thickness of the heart walls are less convincing in the results, because of the great differences in the amount of contraction of the heart muscles and the resulting differences in the thickness of the walls

Duroziez demonstrated an increased area of heart dullness in the latter part of pregnancy which corresponds to the shadows shown in the Roentgen pictures recently made and published by von Rosthorn These findings, however, do not prove an enlargement of the heart, but rather such a change in its location in reference to the anterior chest wall as to bring more of it in contact with the wall Fritsch has held that the heart is not hypertrophied, but rather slightly dilated to accommodate a greater amount of blood

The question is intimately related to the physiologic problem of the change in the circulation during pregnancy and labor Has the heart more work to do during pregnancy? The amount of work to be done by the heart depends on the amount of fluid to be kept in circulation and the resistance of the tubes or blood channels Gescheidlen found in dogs some increase in the amount of blood during pregnancy A more important element than the quantity of blood is that of the resistance in the tubes or vessels

Several ways in which the resistance is probably increased during pregnancy have been suggested by different writers Spiegelberg held that the introduction of the uteroplacental circulation caused a considerable increase in the work of the heart Lahs then showed that dividing the current, as was done by introducing new or additional channels, would rather decrease the resistance and so the work of the heart Other ways of increasing the resistance were then considered The pressure on the abdominal aorta by the enlarged uterus was one The increase in abdominal pressure, due to the growing uterus, was another The obstruction to the pulmonary circulation and disturbance of diaphragmatic respiration, was a third That these may be elements in the problem seems to admit of no doubt There is however, one cause of increased resistance that has, so far as I know, been generally neglected, but one that may be at times of more importance than all others, that is, the splanchnic congestion that is characteristic of pregnancy, and probably dependent on a vasomotor agent that may be due to the toxemia of pregnancy

An elaboration of this theory would require the entire time of a paper, and can not now be attempted In its favor only one very suggestive fact will be recalled an early and a constant symptom of pregnancy is congestion of the genital region with a corresponding anemia of the surface of the body This condition is allied to that of chronic shock, where as we know the splanchnic reservoir is overfilled and other portions of the body are relatively anemic In such a state the contracted superficial and extra splanchnic vessels furnish an enormous resistance to the blood current, and so greatly increase the heart work This disturbance in the circulation is one of the first and most striking phenomena of pregnancy, and must be due to it What more probable than that it, like the nausea and vomiting of pregnancy, the kidney of pregnancy, gravidal neuritis and eclampsia is a symptom of pregnancy intoxication

If this be a factor in the increase of vascular resistance or of the heart work, it will evidently vary much in importance, according to the degree of intoxication in individual patients Where the elimination is poor, as in cases of renal disturbance, the intoxication will increase, and consequently the vascular resistance

The conclusion that may be drawn from the work that has been done in the study of the effects of pregnancy on the heart is that there is generally a slight increase in the resistance due to a number of factors, and to the work to be done which leads to a slight hypertrophy of the normal heart Occasionally the resistance is much increased, and in addition there may be a direct poisoning of the heart muscle by the toxemia of pregnancy The myocardial degeneration thus produced is much more important than is commonly held This pathologic change in the myocardium with the endocarditis produced by puerperal infection constitutes the pathologic changes in the heart disease, due to pregnancy and the puerperium

A heart previously diseased is, of course, more apt to be injured by pregnancy and labor than a normal heart Because we know so little clinically about chronic myocardial changes, we have in mind chiefly heart disease due to valvular lesions Whether the lesion be mitral, aortic or tricuspid, and whether it results in stenosis or regurgitation, or both, the heart is more apt to suffer from increase of work produced by any of the modes of resistance to the circulation The degree in which it suffers varies greatly, depending, not only on the condition of the heart, but also on the importance of the disturbing factors When there is a lack of compensation in the non-pregnant state the strain on the heart will certainly be very great, and may lead to irreparable injury, but if perfect compensation apparently existed before pregnancy, it may be broken down The date when the disturbance begins depends on what factors are most important in increasing the heart work If the toxic agent manifests itself early, perhaps causing a marked degree of nausea and vomiting, the cardiac weakness may be early apparent, perhaps to disappear later under appropriate management The toxic agent may, however, show itself later in conjunction with renal insufficiency Here the distension of the abdomen may co-operate to increase the resistance of the circulation

Pregnancy is apt to cause several kinds of injuries to a diseased heart It may weaken an already overstrained heart muscle or lead to its degeneration, it may also cause a renewal of an old or latent inflammation Of course, both of these consequences may follow as an effect of pregnancy Which is more common or more important is difficult to say

All of the sequelæ of heart disease may be found developing rapidly during pregnancy General and pulmonary edema, dyspnea, bronchitis, palpitation and gastric disturbance are among those most important from a prognostic standpoint In some cases interference with general nutrition will come to be of great significance Rarely death may occur before labor begins

With the commencement of labor special dangers arise If the heart has suffered much during pregnancy and the symptoms of secondary complications have already become threatening, the outlook may be serious But even where there have been no marked signs of cardiac insufficiency a sudden and perhaps fatal collapse is not impossible In the first stage the contraction of the uterus in itself does not, perhaps, increase the vascular resistance, but it is not unlikely that the vasomotor mechanism is disturbed so as to create more work for the heart Moreover, individual voluntary efforts at bearing down cause an increase in abdominal pressure, just as in the second stage, and thus markedly increase the heart labor It is in the second stage that the greatest danger arises The powerful contractions of the abdominal muscles, which in a healthy person may produce a marked cyanosis of the head and chest, may overcome a diseased and weakened organ, and sudden death result

With the completion of labor it might be thought that the dangers are past This, however, is found not to be the case In the casuistic we find many instances of death occurring from a few hours' to a few days' postpartum Much discussion has taken place concerning the conditions which are responsible for these deaths While some have thought that the sudden filling of the venous system leads to distension of the right heart others have held the opposite view, namely, that the sudden emptying of the abdomen leads to overfilling of the abdominal vessels and a resulting deficiency of blood in the heart It is not unlikely that there remains after the emptying of the uterus a high degree of vascular resistance, which continues to impose too much work on the weakened heart, and to which it finally succumbs in spite of the comparative relief that it must get at the completion of the second stage of labor

Additional dangers arise later in the puerperium The condition brought about during the latter part of pregnancy by the disturbed circulation and the respiratory and digestive complications favor local infection and its extension if there be any contamination If infection can be avoided there are still digestive disorders and the kidney disturbance to complicate the puerperium and make it a long and tedious convalescence

When we now turn to consider the effect of a pre-existing heart disease on pregnancy, we find the most common and chief disturbance to be an interruption of the pregnancy This interruption may occur at any time, but most frequently in the third and fourth months It is no doubt due generally to disturbance of the placental circulation, which may frequently be attended with hemorrhage On account of the imperfect placental circulation and the imperfectly oxydized and purified blood, the fetus may suffer and eventually succumb inside the uterus

As there is little or no reason why heart disease should cause sterility, it is probable that the frequency of heart disease in pregnancy corresponds to its frequency in all childbearing women Demelin found heart disease in about 1 3 per cent of all pregnancies Vinay found the frequency to be 2 per cent If 1 5 per cent represents the number of cases of pre-existing valvular heart disease, we must remember that nearly as many cases of myocardial disease arise during pregnancy Many of these cases cause few symptoms and may be overlooked, unless a routine examination of the heart is made in all cases

CARE OF THE PATIENT

In the management of this complication, if the patient be seen early in pregnancy, the first question that arises is, shall the pregnancy be allowed to continue, or should an abortion be induced? If the valvular lesion be accidentally discovered in a patient who has perfect compensation, and is perhaps ignorant of her condition, the question of inducing abortion could not be raised She should simply be carefully watched, and if complications arise, she should be informed of her condition But if at first the patient knows her state, and if there are signs of disturbed compensation, the question can not be ignored If the patient should be very anxious to have a child and object to the induction of premature labor, she should be fully informed of the danger of the occurrence of a spontaneous abortion, the risk of increased injury to the heart, and the danger from secondary complications, and even death The plan for the conduct of pregnancy should then be mapped out

The patient should be required to give her promise to adhere to all details in this plan and co-operate with the physician in every way When the circumstances of the patient will not admit living up to an ideal plan, such modifications must be made as are necessary, but the physician's responsibility is satisfied only when he presents to his patient a complete statement of all the facts in the case

If the circumstances of the patient do not allow her to undertake to follow a course of treatment that promises a successful carrying of the fetus to term, or to viability, and if she wishes an abortion performed to save herself the risks of the pregnancy, then the physician has a most difficult question to decide—the necessity of an operation He must from the histories of previous pregnancies learn the probability of a spontaneous abortion and from the anamnesis and the physical examination determine the condition of the heart and its probable resisting and latent forces The determination of the location and kind of murmur is of minor importance The condition of the pulse, its variation when the hand is raised above the head, the change in the heart action by change of the position of the patient the existence of complications, such as edema and gastric and renal disease, are among the important symptoms and conditions that determine the prognosis and the decision of the physician as to operative interference

When an operation is decided on, it should be done at once Waiting for a spontaneous abortion is not advisable, as it promises no safer outcome than a properly performed operation and leaves the patient exposed unnecessarily to the risks of pregnancy The mode of operation does not differ from that which is employed for other indications If the pregnancy be not advanced beyond the sixteenth week rapid dilatation of the uterus and removal of the egg under ether is the safest method, because quickest and attended with the least danger of infection With proper precaution, ether may be given to a patient with heart disease without fear Between the sixteenth and twenty-fourth to twenty-eighth weeks dilatation of the cervix with a tent or bag must precede the removal of the egg

If the attempt to carry the pregnancy to term is decided on, one of the first questions to engage the attention is the prevention of spontaneous abortion Mueller states that abortion occurs in about one-fourth of all cases of pregnancy complicated with heart disease In severe cases the frequency of abortion is undoubtedly much greater Slight strains or injuries, overexertion wearing a corset and other conditions and circumstances that would have no bearing in a case of normal pregnancy here lead to slight uterine hemorrhage on account of the venous congestion and disturbed placental circulation Hence anything that can act as an etiologic factor should be foreseen and avoided The slightest indication of uterine contraction should be noticed and stopped by appropriate means The patient should be instructed in the meaning and importance of all the signs of the beginning of uterine contractions, the backache, the heavy feeling in the pelvis simulating menstrual molimina, hardening of the uterus, etc At the first appearance of these symptoms she should lie down and send notice to her physician

For the prevention of the uterine disturbances which precede and cause the separation of the egg, as well as for stopping the uterine contractions, the best thing to do is for the patient to keep a horizontal position, as in this position the congestion of the uterine vessels due to gravity is best avoided In severe cases it may be necessary for the patient to keep this position most of the time of gestation It is of use for other reasons The work of the heart is thereby much lessened The work of the digestive organs may be lightened, for the amount of food required by the body is very much less when the body is at rest and protected from loss of heat Hence rest in bed in the horizontal position comes to be the most important factor in the management of heart disease in pregnancy

It is, however, an agent that must be controlled A woman can not lie in bed seven or eight months or even seven or eight days without suffering from lack of exercise The blood and lymph circulation is much dependent on the muscular contractions, without which there is a stagnation, a deficiency in secretion and an auto-intoxication that leads to malaise and disturbed nutrition To avoid these harmful effects of inactive rest, a system of bed exercises and regular daily massage should be inaugurated The details of such a system can not be elaborated here

When uterine contractions indicate that the danger of abortion is imminent, we must supplement rest in bed with sufficient doses of morphin or codein to stop them Sometimes it is necessary to continue the use of morphin for a considerable period When it is necessary to use this drug, it is well to counteract its harmful effect on the intestinal functions by giving salines or other proper correctives

DIET

Aside from measures to prevent abortion, the care of pregnancy includes such dietetic, hygienic and medicinal management of the circulatory, respiratory, excretory and digestive systems as is necessary to keep them in the best possible condition The food should be easily digestible and assimilable and carefully regulated as to quantity Too much food throws unnecessary work on the eliminating organs, and may be a source of great danger In the latter part of pregnancy, the digestive organs may be so affected that it is difficult for the patient to take and retain sufficient food to meet the demands of the body The caloric value of the food should be approximately determined, in order to furnish a basis for the amount given or allowed If a patient be most of the time in bed and reasonably protected from cold, 1,000 kilo calories is sufficient to supply all demands If she be about more or less and use up considerable energy in exercise and heat radiation she will need 1,500 to 2,000 kilo calories Of course, I am not considering cases of slight heart involvement which do not prevent the patient from doing her ordinary work In such cases the needs correspond to those of a healthy pregnant woman The food should contain all the food elements, and preferably in the proportion found in milk Milk is indeed the best food of all if it can be obtained in good condition As the amount required is only from one and one-half to three quarts, the quantity of water which forms a part of the milk is not excessive When it can not be used in whole or part, a menu containing toast, cereals fresh eggs and butter, a few well-selected and carefully cooked vegetables and if borne by the stomach, fresh fruits will answer all requirements All must be prescribed, and nothing left to chance or to the whim of the patient or her friends and attendants So long as the digestive apparatus is in order, the dangers from an improper diet are not recognized A mistake in diet may, however, upset the liver or kidneys and lead to a circulatory disturbance that reacts on the digestive apparatus, and establishes a vicious circle hard to be broken

HYGIENE

The hygienic management embracing regulation of exercise, sleep and rest, dress, bathing, avoidance of infection, etc, should be equally prescribed and controlled by the physician The question of bed exercise in serious cases has been considered already From the principles laid down in the discussion of the prevention of abortion, it is evident that physical exercise must be taken with care Nothing that involves risk of accident should be allowed Exercise should not be too long continued and under no circumstances should the patient become tired This restricts exercise in most cases to moderate walking and to riding over good roads, and proscribes tiring housework, as well as indulgence in active amusements

If the patient is not obliged to remain in bed all the time, she should lie down at least once a day for a half hour or more If the complications are not too disturbing, there is generally no difficulty in procuring a reasonable amount of sleep With the appearance of dyspnea, coughing, etc, want of sleep may become serious and furnish an indication to interrupt pregnancy

Two points should always be made in regard to the dress or clothing of the patient First, there should be no constriction of the body of the patient with corsets or skirtbands The skirts must be light and suspended from the shoulders Second, the underclothing must be warm enough to protect well the skin Skin elimination is not unimportant, and must not be checked

The frequency, kind, temperature and duration of the baths are somewhat important matters, and must be decided on after studying the case Sometimes a cold bath can be borne by one accustomed to it A long hot bath is generally enervating and harmful In the latter part of pregnancy the patient must usually be content with a sponge bath

Of very great importance is the avoidance of infection, and especially infection of the nose, throat and lower air passages The condition of the patient is one of lowered resistance which makes an infection easy A tonsillitis or bronchitis will very quickly change the picture of a smoothly progressing pregnancy to one greatly disturbed, hence all exposure to infection from friends or relatives must be strictly forbidden Pure fresh air is invaluable, but dust from any source—the house or street—should be regarded as poison

The medicines most needed are digitalis and strychnin for the heart, morphin or codein to quiet uterine contractions, and calomel, cascara, salines or other laxatives for the bowels Chloral may occasionally be needed as a hypnotic Oxygen should always be provided in case of dyspnea

INDUCTION OF PREMATURE LABOR

In spite of the best management of pregnancy, the time may arrive when, long before the end of gestation, the condition of the patient is such as to cause grave anxiety and compel a consideration of the advisability of inducing premature labor The indications for the operation are increased frequency of cardiac upsets, palpitation, growing weakness of the heart, as shown by a weakened and more rapid pulse, and increase in edema with disturbed respiration, and a serious impairment of nutrition The operation will be postponed if possible till the thirty-sixth week on account of the child Of course, it may be required earlier, as in all cases of induction of labor the utmost accuracy in determining the length of gestation should be secured All preparations for the care of the infant have been made, the incubator is at hand and the nurse instructed in managing it, oxygen is ready, both for the mother and baby

That method of inducing labor for heart disease should be chosen that is reasonably prompt and certain, and at the same time disturbs the mother the least When there is hydramnion or twins the membranes should be ruptured to furnish at once some relief from the abdominal distension In other cases we would probably choose between the use of the metreurynter and the bougie If the cervix is soft and dilatable and the woman not very sensitive to manipulation, so that one may introduce a small Voorhees bag without an anesthetic, the metreurynter method is to be preferred When the woman is sensitive so that the introduction of the bag would be impossible without an anesthetic or when the cervix is long and hard and not easily dilatable, the bougie method is better As is well known, the chief objection to the use of the bougie is its uncertainty, the duration of labor frequently being thirty-six hours or more In cases of heart disease, however the uterus is more sensitive, spontaneous abortion and labor being common Hence the bougie generally acts more promptly than in other cases For this reason this method may be employed here with a good deal of confidence The details of both these methods are assumed to be familiar to all, and will not be discussed

The essential points in the management of labor complicated with heart disease are careful watching, prompt interference when indicated, the use of ether when necessary, and the free employment of oxygen From the beginning of labor till the completion of the third stage, and in bad cases for hours longer, the physician must be in constant attendance and watch closely the effect of labor on the heart Every preparation for all possible operations must be made Heart tonics and stimulants are administered as needed One of the most important helps is oxygen To one who has never used it in such cases its effects are magical It not only helps the respiration, enabling a patient to lie down who has been obliged to keep the sitting position to breathe, but it also has a soothing effect almost equalling an anesthetic It will, in fact, largely replace ether, which will rarely be needed except in cases of operation

Operative interference may be required in any stage of labor As a rule, there is less danger in the first stage than in the second, and so less indications for interference If the cervix opens slowly and the heart begins to tire, it may be necessary to assist Nature Ether is of course the anesthetic chosen It is safer to give ether than not to give it, for the pain and shock are more injurious than the anesthetic Yet the operation should be as short as possible, hence if it is necessary to dilate the cervix it is better to do so by incision than by manual or bag dilatation, unless the cervix is soft and easily dilatable Dilatation will be followed by rapid delivery of the child either by forceps or by turning and extraction

There is no special rule for managing the third stage Generally the placenta comes away promptly If an operation has been done it may be desirable to remove the placenta at once to avoid further disturbance to the patient Otherwise the cord may be cut short, dry dressing applied, and the patient allowed to remain quiet until the placenta comes away of itself

In accordance with the theories of the causes of the disturbance following the emptying of the uterus, it has been advised to apply sand bags or other weights to the abdomen after the birth of the child to increase the abdominal pressure A good bandage is probably quite as efficient The chief thing to remember is that the danger is not passed with the expulsion of the child, and that then heart stimulants and oxygen are especially needed

The puerperium requires as careful management of the diet, exercise, massage, etc as did the pregnancy During this period, which should include the full puerperal period of three months, the patient may be restored to a fair state of health As a general rule, the mother should not try to nurse the child The outcome depends chiefly on the thoroughness with which the patient follows the plan laid down, even to minute details Here as in hardly any other field of medicine, is made apparent the importance of the qualities of patient persistence in the physician and conscientious obedience in the patient

DISCUSSION

Dr Rudolph W Holmes, Chicago—It is very desirable to have our attention called to heart disease in its obstetric relation, for there is a very popular misconception prevalent as to its frequency and mortality The study of heart disease in pregnancy and labor is based too largely on old statistics compiled at a time when normal and abnormal obstetric cases were inadequately studied The most popularly quoted paper is that of MacDonald published in 1878, but he based his conclusions on only a few severely ill patients, where necessarily the mortality was high, from 50 to 60 per cent, according to the lesion, mitral stenosis being the most serious Recently Fellner made a study of the heart cases occurring in the Klinik Schauta in the past ten years He found first, that 2 4 per cent of pregnant women have heart affections, few only offering symptoms, second, that the mortality was 6 3 per cent, in sharp contrast to older figures—the deaths being largely limited to cases of mitral stenosis A word might well be said regarding morphia in pregnancy It is a moot question if morphia, exhibited in reasonable doses during pregnancy, affects the baby, but there can be no doubt that it may be disastrous to the child if administered within an hour or two before delivery, for then the center of respiration may be paralyzed and the child be unable to breathe at birth The babies of women subjects of heart disease are weaklings and often prematurely born, making the hazard from the morphia all the greater If morphin is to be given it should be a cardinal principle that it may be given in pregnancy to allay uterine irritability The moment labor begins morphia should be given sparingly, and in the second stage should be contraindicated for it offers great danger to the child I have seen babies severely poisoned by the administration of morphia to the mother necessitating protracted artificial respiration The use of heroic doses of morphin in eclampsia, I believe, is responsible for many fetal deaths in that condition In inducing labor I think that there can be no discussion but that the catheter is the most logical instrument for the purpose in this condition If labor is to be accelerated and the os permits it a small flat topped Voorhees bag may be used A large bag ought not to be employed, because there is danger of raising the intrauterine pressure and thereby compromising the heart action If cervical effacement be present I believe the cervical incisions offer a useful means of securing full dilatation and further bleeding is produced which has a beneficial effect on the heart Version or forceps will be employed depending on the conditions. I do not believe, with Fritsch, that the disturbance in the third stage of labor is due to anemia but rather to an overloading of the right heart. Therefore, in the management of the third stage of those heart cases with impaired compensation the indication should be to bleed the woman, if possible. The moment the baby is born and the cord severed, the placenta should be manually removed slowly, so that the cotyledons are torn away gradually, thus enabling one to regulate the amount of blood that is to be lost. It is a distinct advantage to have the woman bleed in order that this congestion of the right heart may be obviated. In conclusion my remarks apply alone to those grave heart cases with a lack of compensation. The labors of women with compensated heart lesions should be conducted practically on the lines approved in normal cases.

DR. N. R. HOTCHKISS, New Haven, Conn.—It has been my misfortune in several cases of mitral disease to have the woman die from cyanosis in spite of all the precautions that were taken. I have the feeling that in mitral disease, where the patient exhibits shortness of breath during pregnancy, we should not permit the case to go on to a natural termination. The earlier labor is induced, the better for the patient. In regard to what Dr. Holmes said of the necessity of blood loss in these cases that go to termination, that is one of the most important things necessary. I have noticed a number of times that the loss of blood relieves these patients very much, and several times I have performed venesection to relieve the cardiac and respiratory dyspnea.

DR. FRANK CAREY, Chicago—While one may agree with Dr. Holmes as to the necessity of loss of blood in a given case, I can not agree with him in the general advocation of going after the placenta at once, and letting that go out as general practice for physicians. There is the possibility of infection and one can not control the amount of blood to be lost by slowly picking off the placenta. To bleed a patient open a vessel and have no difficulty stopping the bleeding. If the placenta can be delivered within a reasonable time, say twenty or thirty minutes, I certainly should not advocate its manual removal, by the general practitioner at least.

DR. HERMAN GRAD, New York—This is an important subject. I know of nothing more formidable to cope with at the time of labor than a bad heart and damaged valves. These cases are exceedingly difficult to manage, especially if they do not present themselves until the ninth month of pregnancy. A case came under my observation recently, in which I found a mitral stenosis. While sitting quietly in a chair the patient was comfortable, but the slightest muscular exertion would send up her pulse and produce cyanosis. When labor began she was cyanosed and unable to lie down. She had to be delivered in the standing posture, with two or three persons holding her erect, and myself kneeling on the floor. It convinced me that if these cases come early in pregnancy, labor should be induced, because the woman is in too great a danger of losing her life. With regard to bleeding, I have observed that the loss of blood relieves these women, and it is astonishing to see how soon afterward they can recline in bed. The patient I mentioned passed through the puerperium in comfort. Six weeks after her confinement she went out walking. On returning home she dropped dead while going up the stairs to her apartment. No autopsy was permitted. She had murmurs all over her chest. Her mother told me that although they knew of her heart trouble they nevertheless permitted her to marry not knowing that pregnancy would be such a serious matter.

DR. CHARLES J. HASTINGS, Toronto, Canada—Some one has suggested the slow peeling off of the placenta to encourage hemorrhage in some cases in order to relieve the engorged right side of the heart. This strikes me as being rather unscientific. While I appreciate the value and importance in extreme cases, of relieving the engorgement of the right side of the heart, yet I think this should be done by venesection, in the usual way. I look on the introduction of the hand into the uterus and the peeling off of the placenta as one of the most formidable and most dangerous operations of labor and should only be resorted to in extreme cases, and always with a gloved hand. In my opinion we have no more valuable drug than morphin at our command, in fact, I think there is no other to compare with it in the relief of cardiac dyspnea and shock. I have never seen any ill results to the child *in utero* follow its use, and I have had occasion to give it in many cases before the birth of the child. I do not question the possibility of its giving trouble, but my experience has not been in that direction. I think we ought to consider well before the induction of premature labor, both for the mother and child. The mental effect on the mother might be more disastrous than the continuance of pregnancy as we often see more disastrous symptoms in the earlier months of pregnancy than later on, providing the patient is carefully watched and treated. Systematic rest, cardiac tonics, careful dieting and proper elimination usually result in satisfactory compensation. We should, therefore, be slow to sacrifice the life of the child. I have had, however, one very grave case where the patient had had two severe attacks of hematemesis as a result of engorgement of the right side of the heart. In this case, in consultation with two of my confrères, we decided to empty the uterus at once.

DR. C. S. BACON—The principal point taken up in the discussion seems to be the management of the third stage of labor, the question of removing the placenta and increasing the hemorrhage. There have been two views held as to the cause of the disturbance after the birth of the child. One, that there is an anemia of the heart, and the other, that there is an engorgement of the heart, two opposite views. It is not necessary to regard either of these conditions as the essential etiologic factor. It is certain that the embarrassment of the circulation continues after the child is expelled. The vascular resistance continues for hours, in fact, for some days. Sometimes death occurs immediately after the birth of the child but more frequently not until some hours afterward. We may assume that the heart is called on to do an increased amount of work, and that this condition is the cause of the fatal termination. These theoretical conditions as to the relative anemia or congestion of the heart need not influence us too much. I doubt very much whether it is necessary to increase the hemorrhage by venesection or by manual removal of the placenta, as mentioned by Dr. Holmes. Remember that the patient is weak, she has been nourished improperly for months, and she has a weak, poorly nourished heart. Why make her condition worse by withdrawing blood? What the patient needs is stimulation before, during and after labor. I wish again to emphasize that the use of oxygen during labor and continued for some hours afterward, is preferable to producing hemorrhage, either by venesection or manual removal of the placenta. The danger of infection referred to by Dr. Carey must be considered, because the patient, on account of her weakened condition and diminished resistance, is more liable to infection at this time than at any other. As to the use of morphin. These children are in a weak condition, and it is probable that this weakness is the result of a disturbed placental circulation and not because of the use of morphin. I have given morphin for weeks and months, in carefully regulated doses, to prevent uterine contractions, and I am convinced that I would have had a spontaneous labor without it. The child was born and, so far as I could see, was not injured in any way. In regard to the nature of the heart lesion. The common belief is that an aortic disturbance is more dangerous than a mitral lesion, but this is not in accordance with Fellner's operations. I do not believe that this is of so much importance as is the condition of the patient. As to the interruption of the pregnancy early. Even though the woman may be in great danger, we have no right to induce labor unless she will consent to it, and I doubt very much whether we have any right to urge the patient to consent. All we can do is to make clear to her the dangers of her condition, and insist that if she wants to go to term in spite of our judgment, that it is dangerous, then she will know exactly where she stands and will assume the responsibility herself. It is wrong to let her go in ignorance of her exact condition.

ORAL INFECTION AND STERILIZATION *

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The lack of requisite training of medical undergraduates in dental principles is well understood by our Section Appreciating as we do the bar to general efficiency which this defect in primary education causes, it has been for many years one of the important aims of the Section on Stomatology to endeavor to have proper instruction in dental principles made a part of the medical curriculum To all practitioners laboring under this disqualification, oral infection will always be more or less of a bugaboo This is due to the fact that in order to be able to comprehend any departure from a normal condition of the tissues in the dental region, it is necessary to be thoroughly familiar with the physiologic appearance of these parts

The most important thing in oral infection is, naturally, a proper diagnosis For this purpose it may be best to separate the subject into two subdivisions, first considering it from a standpoint of semeiology, where the local pathogenic condition is merely a symptom of some constitutional disease, and, secondly, from an etiologic standpoint, where the mouth infection may truly be said to be the exciting cause of other functional disturbances

When we consider the vast network of fine capillaries that freely anastomose through the gum tissue, and the fact that they are the arterial terminations of one of the longest of blood courses, it is not unreasonable to suppose that in all forms of malnutrition the tissues nourished by this ultimate capillary network should be the first to exhibit symptoms due to a lack of normal nourishment The gums, the pulps of the teeth and the lining membrane of the roots, by means of which they are properly articulated in the alveolar sockets, are the parts nourished by these capillaries

In all diseases of the vital organs, before any other clinical symptoms are made manifest, these tissues assume a pathologic appearance, varying in character and degree according to the nature and severity of the disease Atrophic changes are liable to be produced by numerous local causes, and thus easily mislead the student When, however, the changes in the local appearance of the gums are merely symptomatic of some constitutional disease, the acute local symptoms continue to increase in severity with the progress of the disease, and in consequence, the clinical aspects of the gums in these vital diseases become great aids in prognosis When the vitality of the local parts is depreciated to a sufficient degree, they become a prey to infection, and the result is seen in the condition commonly known as pyorrhea alveolaris When the stage has been reached where the discharges emanating from the alveolar sockets cause irritation of the surface of the digestive tract, due to the absorption of the toxins by the swallowing of the same it becomes an additional menace to the welfare of the patient

The nature of this discharge varies considerably, due not only to the stage of the disease, but influenced materially by the character of the functional disorder A common error of dentists in speaking of these discharges is to fail to differentiate between those of a mild, almost bland character and those of a more irritating form of sapremia, and from this to a virulent form of purulent effusion

If we are to consider this matter from a scientific standpoint, it is time to cry a halt on speaking of all discharges of this nature as pus, without any bacteriologic evidences of its existence In saying this I do not wish in any manner to belittle the baneful results that frequently ensue from the absorption of toxins where the discharge is nothing more than a simple sapremia Since pyorrhea alveolaris has become a prominent factor, not only in dental but in medical literature, it is not an unusual thing to see erroneous diagnoses of this disease made Dental practitioners frequently confound it with simple alveolar abscesses If this happens it is not unnatural that the medical practitioner should often make serious errors of diagnosis in purulent effusions in the oral cavity

An interesting clinical experience in this respect will better illustrate the point in question

> Miss L, aged about 50, fell down a flight of stairs She was bruised considerably about the face, but paid very little attention to the matter for twenty four hours, when, on account of her suffering, she sent for her family physician, who had been attending her for some time for diabetes
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> He found the patient showing some temperature, and when, after forty eight hours, this continued to increase so that it ran up to 102 5, and her mouth filled with purulent matter, he sent for a prominent surgeon
>
> After a careful examination the surgeon made a diagnosis of pyorrhea alveolaris, and prescribed a camphor mouth wash The attending physician, accepting the diagnosis made, felt that the patient would receive better attention at the hands of a stomatologist, and I was called in
>
> Instead of finding the patient suffering from pyorrhea alveolaris, there was a comminuted fracture of the alveolar process, extending from the first upper right molar to the left canine, and between forty and fifty pieces of fractured fragments were removed This resulted in the loss of all the teeth in this region On account of the diabetic condition, the delay in proper operative interference left the patient in a very precarious condition Infiltrative absorption had already produced a condition of osteomyelitis, and only the most strenuous efforts of aseptic surgery sufficed to save the life of the patient

In reply to the query of a prominent surgeon as to our methods of diagnosis in oral infections, I said that the same rule applied here that would apply to any other part of the body If there were any possibility of a reasonable doubt, a diagnosis could only be made by exclusion One of the common errors that is made in reference to this pathogenic condition, is the idea that it is confined to middle aged and elderly people There is no age in which a patient can be said to be immune from this disease

TREATMENT OF PYORRHEA ALVEOLARIS

Before proceeding to consider the other types of oral infection, a few words as to the treatment of pyorrhea alveolaris may be of value The original cause of the disorder must be properly diagnosed and brought under proper subjection Where this is possible the prognosis is always more or less favorable if capable local treatment is enforced It is, perhaps, unnecessary for me to state that this means the careful removal of every form of concretion and foreign substance from the teeth and roots and careful polishing of every portion of the teeth and exposed portions of the roots This must be followed up and persisted in at very frequent intervals The important treatment of this condition, however, is preventive treatment It has been demonstrated by

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Stomatology and approved for publication by the Executive Committee Drs E A Bogue Alice M Steeves and M L Rhein

clinical observation that the frequent cleansing and polishing of the teeth surfaces (done in the proper manner) will so enhance the vitality of the dental region that functional disorders fail to produce the serious pathogenic conditions which result in mouths where this prophylactic treatment has not been used

ETIOLOGY OF ORAL INFECTIONS

We now come to the consideration of oral infections from an etiologic standpoint, that is to say, those cases that primarily arise in the oral cavity and are the original causes of other troubles

First of all, in this respect it may be wise to say that there are forms of pyorrhea alveolaris due entirely to local causes These are most commonly caused by neglect in the care of the teeth and the irritation caused by more or less extensive accretions of the calculi It is also caused by the irritation produced from badly fitted crowns, wedges, injudicious separating of teeth and other causes which too often can be laid directly at the door of the dental attendant Local treatment is a ready cure for all of these cases

Perhaps the most common type of oral infection that is found is the simple alveolar abscess This is caused by the death of the pulp of the tooth which becomes an easy prey to the first migratory bacteria

TREATMENT OF ALVEOLAR ABSCESS

The cure of these cases in the acute stage is a simple matter, and consists in the aseptic removal of every portion of the contents of the root canals, their thorough sterilization and subsequent hermetical sealing

Where the disease has run a chronic course, the alveolar process in the neighborhood of the apex of the root and the outer periphery of the end of the root itself becomes necrosed In such cases it is necessary, in conjunction with the treatment of the root canals, to surgically remove every portion of the necrosed bone and root if a cure is to be effected Extraction of the tooth in itself will effect a cure, and of course is frequently the most efficacious remedy in infirmary practice

At a recent meeting of the First District Dental Society in New York City, a prominent surgeon, reading a paper on this subject, made the remarkable statement that in cases of acute alveolar abscess the tooth should never be extracted until all the acute symptoms had subsided, claiming that it was dangerous to extract in this acute condition He advised the simple lancing of the abscess, allowing the patient to suffer all the effects of purulent absorption, until, as he said, the leucocytes had overcome and defeated the bacteria

It is unnecessary for me to place the ban of condemnation on any such practice before this Section I merely cite it as an illustration of the fact that prominent medical men hold such peculiar views

The main cause for opinions of this kind is due to the fact that physicians are frequently called in to see patients suffering from a more or less severe pyemia, subsequent to the extraction of some tooth They fail to recognize the fact that the pyemic condition has been caused by lack of proper aseptic care of the wound after extraction of the tooth In this way improper dental service is the cause of illogical medical inference Oral infections involving the antrum should receive the same thorough treatment of removal of the focus if a cure is to be effected When infections are absorbed through some of the many channels in the jaws, as per the inferior dental canal, speedy and radical surgical work is required to effect a cure

Whatever the condition may be, a careful differential diagnosis must make clear the nature of the malady

The effect on patients of any of these forms of oral infection is two-fold In the first place, they suffer from the direct absorption of the toxins from the constant swallowing of the contaminated secretions, which tend not only to irritate the digestive tract, but in turn are absorbed into some particular portion of the tract, and frequently serve to increase or start up a chronic autointoxication of the system This, in turn, results in the impairment of some of the functional parts of the body, and it is not an uncommon thing to see an etiologic oral infection causing constitutional derangements which are again manifested most markedly in the mouth by producing the well-known symptoms of pyorrhea alveolaris

NEGLECT OF MOUTH INFECTION

In closing, I wish to call attention to the serious neglect by the general surgeon of the evil effects of mouth infection As stomatologists we realize how small a percentage of people keep their mouths in an aseptic condition The modern operating room is replete with every aid and contrivance that can assist in aseptic surgery Clean aseptic garments are a necessity to every attendant, the mouths of the operator and attendants are covered with sterilized materials, the hands of the operator and assistants are covered with sterilized gloves, the patient is carefully prepared for the operation in every respect, except that of his mouth, which frequently is filled with sapremic, if not with purulent effluvia I leave it to the logical imagination to picture the result of such conditions, especially in intestinal surgery

DISCUSSION

Dr E C Briggs, Boston—I think autointoxication in the alimentary canal plays an important part in the infection of the mouth It has seemed to me, in my examinations of the saliva and of urine in cases of interstitial gingivitis, that I have found the most important indication for treatment to be the thorough cleansing of the alimentary canal One patient may show uric acid diathesis and another only poor nutrition, but in most cases there is a failure on the part of the patient in his daily life to have the alimentary canal thoroughly clean, and as a result he becomes autointoxicated I want to speak of an operation for the correction of prominent sockets of teeth, which I am not aware has been done before It is for the treatment of cases in which the teeth, if left to themselves, erupt and, extending until they have cleared themselves of the gum, project down very far, overlapping the lower incisors and give the "gummy" smile so disfiguring to the patient Sometimes the lower lip almost covers the upper teeth and the smile discloses only the gum Some years ago such a case was brought to me which was very marked This led me to do a thing which I have done in several cases since, that is, the cutting away of the gum and the alveolar process, when it was necessary, to uncover the crown of the teeth in the position I wished them to stand, that is, before they had come down and projected themselves beyond the normal line of the gum After the cutting operation I put in a plate, but later on I found that merely enucleating the tooth seemed sufficient to avert a tendency to project downward I have treated a score of cases in the last six or seven years It seems to me rather a satisfactory operation and I should like to have someone else try it

Dr Stewart L McCurdy, Pittsburg—Dr Rhein's important paper is of special value to the oral surgeon whose work is confined to major operative work Extensive wounds and absorbing surfaces are always present, and one of the most serious complications in operations about the mouth is infection By observing Dr Rhein's points, I think we can secure a more aseptic field and thus guarantee a more prompt repair after operations

Dr A W **Harlan**, New York—Dr Rhein's paper further emphasizes the remarks made by Dr Latham on the incorrect use of terms We have had a paper on pathologic irregularities, dealing with suppurations and displacements of the teeth in their sockets We have had another paper on oral infection which *practically deals with the same subject One gentleman* uses the term pyorrhea in one portion of his subject and in another says interstitial gingivitis To an outsider, knowing nothing about the subject, this would be confusing Interstitial gingivitis is the term that has been coined by Dr Talbot to describe the pathologic changes that take place around the roots of teeth It is an absolutely incorrect term for the reason that many of the lesions of the gums commence, not between the teeth, but on the labial and lingual surfaces of the teeth It is, therefore, improper to use the term interstitial gingivitis to cover the whole field The term which is most used describes the effects rather than the cause, and I must protest against the misuse of terms by men like Dr Talbot, Dr Rhein and others, because none of the terms convey the intended meaning to a non professional person

Dr **Eugene Talbot**, Chicago—I am surprised that such an omniscient man as Dr Harlan should be ignorant of anything I never thought of designating inflammation between the roots of teeth as "interstitial gingivitis," nor does the majority of the dental profession understand it so It shows the greatest ignorance to speak of interstitial gingivitis as an inflammation between the roots of the teeth Every physician and trained dentist knows that interstitial inflammation means sclerotic inflammation of deep seated structures such as is found in the kidney, liver and such organs It never occurred to me when I coined the term that it was absolutely exact, no term can be It means a deep seated inflammation in the alveolar process and not between the teeth any more than any other part of the alveolar process The term is properly understood in this sense by the majority of pathologists If there is one thing on which physician and dentist alike should be better educated, it is infection from the mouth It will not be long before more is definitely settled about diseases of the alimentary canal, especially about autointoxication, intestinal fermentation and appendicitis In some cases I could approximately diagnose appendicitis due to infection from the alveolar process It is a subject which requires the attention of the medical profession and especially of the dental profession

Dr **Alice M Steeves**, Boston—In regard to Dr Harlan's remarks, diphtheria conveys a definite idea to the laity There are many infectious acute diseases of the throat that are named diphtheria by professional people, and while it does convey a definite idea to the laity, always conveys a serious idea and is not always *justifiable* There are many conditions of the throat, such as follicular tonsillitis, etc, not diphtheria Also in typhoid fever there are many conditions of the intestinal inflammations that have in the past been covered up for various reasons, perhaps imperfect diagnosis, under the term typhoid fever As time goes on and these cases are looked into more carefully we know these cases have not all been typhoid fever I think, therefore, that typhoid fever, diphtheria and various other affections are very likely to be used for a number of conditions without conveying any definite idea to the laity

Dr **George F Eames**, Boston—The term interstitial gingivitis has been accepted by many for the want of a better one, but as Dr Talbot has defined it as a deep seated inflammation in the alveolar process, it seems to me that neither the term interstitial nor gingivitis applies to the diseases commonly included in the term pyorrhea alveolaris Undoubtedly numerous diseases of the throat in the past have been classed as diphtheria, at the present time, however, no conscientious physician could make that mistake The microscope settles it beyond a doubt

Dr **Vida A. Latham**, Rogers Park, Chicago—There are no text books that cover properly the field of oral asepsis Dr Hunter's and Dr Marshall's works *are the best* The dentist who meets with all classes of infection of the periodontal tissue—call it pyorrhea alveolaris, if you wish—is at times appalled at the rapid onset and far reaching results We see cellulitis with edema of the cheek so severe that we are alarmed Some people put on cold compresses and advise antisepsis of the mouth, with calomel internally, which is in some cases, perhaps, contraindicated It seems to me that this is a subject which the profession might take up with a great deal of profit, and also make a better study of the growth bacteriologically, following the lines of Miller, Vincentini and Goadby, who have tried to find some culture media on which they can grow the mouth germs This Vincent's angina is sometimes confounded with diphtheritic infections and is a source of danger in a dental office I believe strongly in the fact of auto intoxication, also that these cases of pyorrhea alveolaris or interstitial gingivitis may be caused in many cases by profound anemia, which we know is often due to autointoxication, and these are the cases where we get a neurasthenic type from some maldevelopment through faulty metabolism

Dr. **Rhein**—I had trusted that the purport of this paper would not be misconstrued It was not my intention to make this a subject practically of dental discussion nor to bring in the mooted subject of nomenclature on this point It is well understood by all of us how difficult it is to settle that question, so I referred to the condition as pyorrhea alveolaris, because it is the name by which it is most generally known among the medical men, and this paper is intended for the general medical practitioner Personally, I am ready to adopt the name of interstitial gingivitis instead of pyorrhea alveolaris, if it could be generally adopted I was much interested in Dr Briggs' remarks regarding reimplantation, and I believe that in some cases we may get the results he speaks of I do not believe, however, that we can get better results by reimplantation than with the same amount of surgical efficiency The objection to implantation remains until it becomes disproved that it is only a temporary operation, unless ankylosis should set in, which is present in only a very few cases I will take great pleasure in giving Dr Briggs' method further attention In regard to sterilization, there is not a general medical practitioner, unless he has been especially trained, who would understand what we mean by "placing the mouth in an aseptic condition" That is one of the things that Dr Latham brought out Absolute sterilization of the mouth will always remain an impossibility just as absolute perfection of occlusion will remain an impossibility to the human race What is construed by the medical profession to be placing the mouth in as sterile condition as possible means, as a rule, to brush the patient's teeth and give him a mouth wash A patient who is to be placed on the operating table ought to have every particle of foreign matter removed from the teeth The teeth should be cleansed and polished by a special dental nurse and then the mouth wash properly used will place that mouth in a *comparatively sterile condition so far as the mouth bacteria* are concerned

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Occupations for Lepers—A Russian physician, H Koppel of Dorpat, of large experience with lepers, attributes their dread of entering an asylum to the lack of remunerative employment in them He comments on the rapid course of the disease at home in comparison with the long survival in asylums, and ascribes it to the lack of medical care of the slight injuries to which their anesthetic condition renders them especially liable At home no attention is paid to these abrasions and they entail long suppuration which undermines the general health He advocates the introduction of various handicrafts for the lepers, making articles that can be adequately sterilized by boiling before distribution outside or any articles for consumption in the asylums, farming, casting, etc, but all with the proviso that the workers are to be paid for what they accomplish He has found it advisable sometimes to hire out the men to neighboring farmers They go directly to the fields and return to the asylum to sleep and eat, and the money they earn is their own They will not work when there is no money incentive, inaction is depressing and the fear of it keeps them away from the asylums where they belong

THE SURGERY OF THE BILIARY TRACT,

ESPECIALLY THE INDICATIONS FOR OPERATION AND THE IMPORTANCE OF DRAINAGE.*

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BOSTON.

The present communication seems to me justified only in the light of experiences which I have had during the past winter. We are still far from a satisfactory solution of many questions concerning the surgery of the biliary tract. The following are some of these questions:

(*a*) Should gallstones be removed even if they cause no symptoms?

(*b*) What is the importance of biliary drainage after opening the gall bladder or gall ducts?

(*c*) What is the best way of preventing hernia after operations on the biliary passages?

(*d*) What is the significance of the biliary fistula?

From the beginning, hernia in the scar and biliary fistula have been enough to dampen the surgeon's enthusiasm for a procedure which, in many other respects, is one of the most brilliant and effective in modern surgery.

The cause of hernia after operations on the biliary tract is the long incision and the destruction of the motor terminals of the intercostal nerves, and especially the use of drainage, which prevents immediate closure of the wound. The cause of biliary fistula is an obstruction of some kind, usually an overlooked stone, in the course of the common duct. The obstruction may be complete or it may be slight. To some degree, however, it must be present in every case of biliary fistula. Not infrequently the obstruction is the result of chronic inflammatory processes in the immediate vicinity of the common or hepatic ducts.

What more easy and effective way of preventing both hernia and fistula could there be than immediate closure of the gall bladder after the removal of gallstones, or ligation of the cystic duct after cholecystectomy, followed by secure suture of the abdominal wound?

No course of procedure can be more effective than this in preventing these two evils. Instead of hernia and biliary fistula, however, still greater evils may follow.

My own experience has shown that in all lesions of the biliary passages *the most important thing to be accomplished is persistent and prolonged drainage of the gall ducts and the gall bladder.* Furthermore, immediate closure of the gall bladder, cystic and common ducts, after extensive manipulations and perhaps bloody dissections, may be attended by dangers to life of no light weight, and by disasters of the first magnitude during convalescence. Post-operative complications have arisen for which there have been no precedents and to remedy which secondary operations of the utmost difficulty and danger seem to be the last and only resource.

The occasional occurrence of a biliary fistula, for which at the operation no adequate cause could be found, presents a complication not only distressing to the patient, but mortifying to the surgeon. Furthermore it requires an operation sometimes of much greater danger and suffering than the original one.

Three years ago the question of indications for operation in gallstone disease was discussed here before this body. The prevalence of opinion was strongly in favor of the proposition that gallstones should be removed as soon as they begin to offend. Subsequent experience among medical, as well as among surgical men, has, I believe, shown the truth of the proposition. The early removal of gallstones by mechanical art has proved brilliantly successful. This operation would have proved more brilliantly successful, however, had it been possible to make an earlier diagnosis. The weak point of to-day in the treatment of gallstone disease is our failure to recognize it early enough for a simple and uncomplicated operation.

It is not the discussion of diagnosis in these diseases, however, to which I would invite attention in connection with the question of indications for operation. It is rather the discussion of a more radical proposition: "Gallstones should be removed whenever they are known to be present, whether they offend or not, unless the patient's condition forbids operation."

In previous papers I have considered substantially the above proposition, and have advocated exploration of the gall bladder whenever there was a strong suspicion of gallstone disease. The present question differs from the other only in the fact that gallstones are known to be present; it is a question, therefore, which can arise only during the progress of an abdominal operation. It may, of course, be considered, and generally is best considered, after convalescence from the original operation, if that operation is itself a severe one.

Many interesting observations are possible on patients who are known to have gallstones, and especially when the size, shape, number and situation of the stones are known. Without going into details of this sort, however, as beyond the scope of this paper, I would say that many obscure and trivial symptoms may be explained by the known presence of gallstones. Gastric and hepatic symptoms of slight importance, and usually regarded as of no consequence, acquire a significance which is at times remarkable.

Occasionally the gallstones observed at, say, a hysterectomy or some other procedure so formidable as to forbid immediate removal, begin immediately to cause serious trouble. The onset, course and conclusion of the case is watched with extreme interest and, in the beginning, at least, with absolute knowledge of the pathologic condition. At times, I regret to say, the course is observed with keen regret that the stones were not removed at the original operation.

A woman of about 50 submitted in March to an operation for the removal of double ovarian cysts. These cysts were malignant and infiltrating. The incision was a long one, which permitted easy inspection of the gall bladder. The attachments of the gall bladder were long; the fundus was easily delivered; the contents were numerous gallstones, apparently faceted, of similar size and shape, situated in the gall bladder itself; none were impacted and none showed any tendency toward impaction. This was one of a considerable number of similar ones in which I had discovered gallstones in the course of some serious abdominal operation. In some I had removed the stones, and in some I had not. It was obviously absurd to remove gallstones from a patient hopelessly infiltrated with cancer. I therefore let the gall bladder alone. It was palpated, however, by myself and by my assistants.

During convalescence the patient became suddenly jaundiced, but without any very severe pain. The closure of the common duct was immediate and complete The patient, already afflicted by the discomforts of jaundice, soon showed signs of recurring cancer The abdomen became filled with fluid Itching of the skin was intolerable When I saw her last she was in extreme discomfort in every way, and was soon after reported as dying

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

In another case, at a hysterectomy, I discovered a single large gallstone, completely filling a moderately sized gall bladder The woman, a patient of 45, had been injured in a railroad collision, and presented so many subjective symptoms that it was almost impossible to tell what was real, what imaginary, and what, if any, was feigned She did have some curious subjective signs in the epigastrium, possibly caused by the presence of this stone

In other cases I have followed the histories with some care I am convinced that many patients with gallstones who are regarded as having no symptoms, do in reality have symptoms, and symptoms which are significant or should be significant of some impending trouble

There is one fact that stands out prominently when I review my gall-bladder experiences of the past three years—that fact is the serious pathologic changes sometimes present when the history shows apparently only simple repeated gallstone colics No matter how confident one may be that the patient is passing at intervals small gallstones—without serious objective or subjective signs, without a suspicion of contractions or other abnormalities of the gall bladder and neighboring structures—the surgeon will often be surprised to find instead of a simple, easy removal of gallstones from a slightly affected or apparently normal gall bladder, a thickened, contracted, adherent, infected gall bladder, and an operation of exceeding danger and difficulty This possibility which, with increasing experience, can not fail to depress the surgeon in even the apparently simplest cases, adds a strong argument in favor of removing gallstones which are known not only to exist, but to cause few if any local changes

Local changes of sufficient extent and severity to make operation extremely hazardous are to be considered in connection with other facts in the patient's condition which may contraindicate operation An easy and brief cholecystectomy might be attempted at the close of a severe abdominal operation when a difficult and prolonged operation would be utterly impracticable

The final arguments in favor of removing gallstones, which are known to exist and which cause no symptoms, are First, the known safety of the procedure in the given case, and secondly, the uncertainty of the future in the same case It will be a matter of almost absolute demonstration in that case what the course of operation will be—an easy and successful operation What the course without operation in that case will be no man can tell, except that it may be unfavorable Gallstones never can do good, they may remain at a standstill, and they may suddenly cause irreparable damage Operation may do harm, but in the favorable case assumed, it is almost sure to be effectual in removing permanently a source of great danger and unbearable suffering

It is only when gallstones are discovered in the course of other operations that the conditions influencing the prognosis with and without operation can be accurately determined It is only in this way that gallstones and other conditions of the biliary passages can be said to be or not to be offending The truth of this proposition seems, therefore, more easily demonstrated than that of the former one that gallstones should be removed as soon as they begin to offend The prognosis of operation in the former case is dependent on facts demonstrated only at the operation In the latter the prognosis for operation may be predicted with the greatest certainty possible in surgical cases The prognosis for medical treatment in some instances of real pathologic changes may, too, be reasonably predicted

The second question is that of the essential necessity for biliary drainage after operating on the gall bladder or gall ducts

The advisability of drainage in turn depends on pathologic changes in the biliary tract Are gallstones in themselves evidence of pathologic changes in this tract? Do these changes, whatever they may be, require in all cases drainage as the most important factor for a permanent cure? The proposition here for discussion is "All conditions of the biliary tract justifying the opening of that tract demand, as the most important part of the surgical procedure, temporary drainage of that tract"

The evidence in favor of this proposition is based first on the findings of the pathologist, and secondly, on the experience of the surgeon at the bedside I shall limit myself chiefly to clinical experience Evidence based on laboratory study of individual cases shows for most operative conditions a bacterial cause I have presented in previous papers this evidence in my cases, worked up by Dr William F Whitney and Dr Mark Richardson In some of the cases when least suspected a virulent organism has been found in the biliary tract In some there has been evidence of previous infection of the most serious kind Laboratory research has, in many cases, successfully traced a formidable lesion established through years of slow inflammatory processes In some cases these lesions were in their very inception, in others they were at a stage in which life was seriously threatened In all cases the severity of the condition could either be plainly traced to an infectious source, or it could be predicted as an ultimate result

In a word, the pathologic findings in both mild and severe conditions suggest, if they do not demand, in all cases, both in the slighter ones of beginning inflammations and in the more serious ones of later changes, as thorough cleansing of the biliary reservoir, the ducts and the contiguous structures, as it is possible to give them Such a cleansing is possible only by immediate and long-continued washing out of these tracts by the full, free and persistent escape of bile through the operation wound

From the clinical standpoint, it seems to me, these views are strongly indorsed The operative cases on which my own opinions are based have multiplied in the past three years to such an extent that I feel less uncertainty with regard to drainage than before Briefly stated, the experience is that well-drained cases almost invariably do well Non-drained cases and cases in which drainage is defective, present a considerable percentage of bad end-results When bile begins to flow freely and abundantly through the tube, then for the first time the ultimate result begins to look favorable When bile flows freely through the external wound and also through the intestinal tract, then the ultimate good result seems almost positively assured Not that the result can always be predicted with certainty The anatomy of the biliary tract is so extensive and so far-reaching, the modes and variety of infection and of inflammatory changes is so great, that the combinations of lesions are of great diversity Conditions constantly arise presenting a clinical picture, for which there will be found no precedent. And yet, in the long run, the clinical observer can not but be impressed by the freedom from these trying complications when there has been a biliary drainage with which he has felt perfectly satisfied.

The conditions which I have observed during the past three years dependent on poor drainage or on no drainage, have been roughly divisible into two classes. First, the cases of cholecystectomy, in which I have ligated the cystic duct and closed the abdominal wound, with two or three days' use of a *gauze wick (cigarette drain)*; secondly, the cases of inflamed and contracted gall bladders, in which I have drained the hepatic duct by direct rubber tubing.

These classes comprise the comparatively normal gall bladders, which I have excised without drainage, and the chronically changed ones, in which drainage has been carried on through the remains of the gall bladder. In the former case there was little evidence of long-continued disease; in the latter, abundant. Drainage in the former was evidently less important than drainage in the latter. Indeed, in the latter, drainage was a necessity; it could not have been avoided. The cases include some unusual ones. In one I drained each primary division of the hepatic duct with a separate tube. In some the gall bladder, as well as the common and hepatic ducts, had each a separate tube. In some no tubing could be used, and gauze wicks were substituted. In a certain number of cases drainage began spontaneously after cholecystectomy and ligation of the cystic duct.

As for the lesion, in a few cases there was no gallstone, the symptoms depending on an infection of bile. In some there was no change apparent to the eye. In some the only change apparent was in the color, viscidity, fluidity and other attributes of the bile itself. In some cases it was impossible to tell beyond a question whether all the gallstones had been removed or not. In many cases a single stone had worked enormous damage; in others hundreds had done but little harm.

The diagnosis of gallstones, when made by even the most experienced clinicians, was shown to be occasionally at fault. In prolonged cholemia, especially without pain, cancer of the pancreas was the common lesion found.

The evil results after operation, excluding the fatal cases, all of which have been caused directly or indirectly by the prolonged results of gallstone disease, have been owing to faulty drainage through the abdominal wound; or if not thus caused, they have been coincident with faulty drainage.

The recurrence of gallstones after free drainage with spontaneous cessation of the biliary flow is not worth mentioning. I have seen hardly a case of this kind; in fact, I can not recall a single one. The recurrence of any symptoms whatever after such a course is extremely unusual.

The recurrence of symptoms after the removal of the gall bladder with ligation of the duct is in my experience not uncommon. I recall five cases in the past twelve months. In one, a second operation was fatal. The original operation was cholecystectomy for gallstone cholecystitis. At the second operation—a very difficult one—cancer was found, hopelessly disseminated. In a second case the patient still has occasional chills, with high fever and grave discomforts. The operation was cholecystectomy for gallstones with gall-bladder infection. A third patient presented, after a comparatively normal cholecystectomy, occasional chills and high fever. A fourth, after the removal of the gall bladder or the remains of it and drainage through the cystic duct, has been seized at almost regular intervals with pain, high temperature and jaundice, with occasional bursts of bile and changed fat through the wound. A fifth has similar symptoms after a similar operation.

Careful inquiry among my patients shows a far better collection of end-results after cholecystostomy than after cholecystectomy. I have learned to dread the third and fourth weeks after cholecystectomy, a period when something alarming seems likely to occur, and to expect sooner or later serious secondary symptoms.

From study and experience, therefore, I am led to the conclusion that the essential thing in the surgery of the biliary tract is full free drainage allowed to persist until it ceases spontaneously.

After permanent drainage through the gall bladder the occasions for secondary drainage will be lessened, but if necessary the gall bladder may easily be isolated and drained a second time. After closure without drainage, the necessity for secondary operation will be greater. If the gall bladder has been removed, the secondary operation may be extremely difficult and dangerous, the only channels for drainage remaining being the common or hepatic ducts.

Immediate closure of the gall bladder without drainage is, in my opinion, in itself so hazardous that it is to be condemned.

Hernia in the scar, even after drainage, can best be avoided by using a muscle-splitting operation similar to the McBurney incision in chronic appendicitis. I have used it of late in many cases and like the method. Care may in this way be taken to avoid the motor ends of the intercostal nerves. Sufficient time has not elapsed to show permanent results.

Biliary fistula can be prevented only by leaving an unimpeded flow through the hepatic and common ducts into the duodenum. When a fistula persists the chances favor, first, an undiscovered stone; second, obstruction *from chronic inflammatory processes* in direct contact with the ducts; third, obstructions in the pancreas or at the duodenal papilla.

The existence of a fistula is *prima facie* evidence of obstruction. If long continued, the only relief lies in a second operation for exploration, usually difficult, bloody and unsatisfactory, or in a cholecystenterostomy.

CONCLUSIONS

1. Gallstones should be removed whenever they are known to exist, whether they offend or not, provided the patient's general and local conditions are favorable.

2. Drainage should be employed until the bile spontaneously ceases to flow through the wound.

3. Hernia in the scar is best prevented by a muscle-splitting incision.

4. Biliary fistula means a common duct obstructed usually by a gallstone, and it requires a second operation to close it or a cholecystenterostomy.

NOTE.—The discussion on the papers of Drs. Richardson and MacLaren will follow the paper of Dr. MacLaren next week.

A Law Against the Use of Cocain.—A bill has been introduced in the New York State legislature which goes farther than any other for the prevention of the use of cocain. It forbids the sale of cocain, either at wholesale or retail in any form or in any proprietary preparations, except on the written prescription of a duly registered physician or dentist, and any preparation of cocain or its salts must have a label affixed to the bottle giving the exact contents of the mixture.—*Journal of Inebriety*.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART II—THE SERVICE AS IT IS TO DAY

(*Continued from page 604*)

(B) PERSONNEL, PAY AND ALLOWANCE

The officers of the Public Health and Marine-Hospital Service can be divided into three classes—commissioned officers, chiefs of division of hygienic laboratory, and non-commissioned officers The commissioned officers are the surgeon general, assistant surgeons general, surgeons, passed assistant surgeons, and assistant surgeons The non-commissioned officers are acting assistant surgeons, sanitary inspectors, internes and pharmacists

METHOD OF APPOINTMENT

In order to become a commissioned officer of the service it is necessary to pass a competitive examination before a board of officers of the service comprising physical, academic and professional tests, and a general average of 80 per cent is requisite for passing

The chiefs of divisions of the hygienic laboratory are appointed because of proficiency in the work of the division over which they preside, viz, bacteriology, medical zoology chemistry and pharmacology

Acting assistant surgeons and pharmacists are appointed by the Secretary of the Treasury on certification by the Civil Service Commission and recommendation by the surgeon general Internes are appointed by the Secretary of the Treasury on recommendation by the surgeon general and examination by the medical officers of the stations to which they are assigned

The following table indicates the numerical strength of the corps

Surgeon general	1
Assistant surgeons general	6
Surgeons	31
Passsed assistant surgeons	36
Assistant surgeons	50
Chiefs of division of the hygienic laboratory	4
Sanitary inspectors	2
Acting assistant surgeons	195
Medical inspectors	2
Internes	12
Pharmacists (first class, 16, second class, 25, third class, 9)	50

PAY AND ALLOWANCES

The pay of commissioned officers of the Public Health and Marine-Hospital Service is the same as that of officers of similar grades in the Medical Corps of the Army as indicated in the following table

Surgeon general	$5,000
Assistant surgeons general	2,900
Surgeons	2,500
Passed assistant surgeons	2,000
Assistant surgeons	1,600

Officers are allowed furnished quarters, with fuel, lights, etc, or in lieu thereof, commutation at the rates of surgeons, $50 a month, passed assistant surgeons, $40 a month, assistant surgeons, $30 a month When serving outside the limits of the United States, as they existed Jan 1 1898, foreign commutation is allowed at the rates of $90, $85 and $80 a month for the respective grades of surgeons, passed assistant surgeons and assistant surgeons

After five years' service, an additional compensation of 10 per cent on the annual salary for each five years' service is allowed commissioned officers above the rank of assistant surgeon, but the maximum increase can not exceed 40 per cent

When an officer becomes unfit for duty by reason of disability or disease not the result of his own vicious habits, he is placed on "waiting orders," and receives 75 per cent of his salary and longevity pay

Officers when traveling under orders or on special temporary duty receive actual expenses, not exceeding $5 a day

There is no regular salary scale for the non-commissioned officers The various acting assistant surgeons, sanitary inspectors, etc, are paid according to the importance of the posts they occupy and the duties they perform

REQUIREMENTS FOR ADMISSION TO THE SERVICE

Original appointments to the commissioned corps are made to the grade of assistant surgeon, after the applicant has complied with the regulations on admission and satisfied the board of examiners as to his fitness The candidate must be a citizen of the United States, between the ages of 22 and 30, of good moral character, and physically sound In addition to these requirements, he must present a diploma from a reputable medical college, and pass a satisfactory physical, academic and professional examination before a board of commissioned officers of the service

If successful, the applicant is either appointed by the President by, and with the advice and consent of, the Senate, or placed on the waiting list to await such appointment, his eligibility being limited to one year After five years' service, the assistant surgeon is entitled to examination for promotion, and if successful in passing the physical and professional tests prescribed, becomes a passed assistant surgeon

Promotion to the grade of surgeon is made as vacancies in the grade of surgeon occur, and only after due examination

ADVANTAGES TO THE RECENT GRADUATE

This growing service, with its fine record and promising future, is naturally attractive to the young medical graduate Its perfectly equipped laboratory and opportunities for special study, afforded by foreign details, are also attractive to prospective assistant surgeons These manifest advantages should not blind the young man to the fact that there is much hard work, of a routine character, to be done, and that the men doing research work at home or abroad, were so detailed because of special aptitude and as a reward for meritorious and energetic effort in the routine work of the service

The young assistant surgeon is apt to have rather a busy time of it If he is one who desires a lazy existence, he should avoid the Public Health and Marine-Hospital Service, but if he is energetic and ambitious he will find a plenitude of professional work of all kinds, with ample opportunity for research work in preventive medicine

The standard of excellence maintained in the service is not entirely due to the rigid requirements of the entrance examinations The entrance boards, by their conscientious work, are able to select men of promise and high professional attainments, but this is only the first step in the evolution of the trained medical officer from the recent medical graduate

The superiors of a young officer are always medical men, and their fraternal encouragement and sympathy will do much to develop his best qualities He will early acquire executive ability by observation of the systematic business methods and attention to administrative details exacted by his superiors and he will have occasion to exercise this ability and display initiative when placed in command of smaller stations, or when serving on independent details

(To be continued)

FOURTH OF JULY TETANUS

THE EFFECT OF PUBLICITY AND PROPHYLAXIS IN REDUCING THE MORTALITY

One year ago THE JOURNAL[1] compiled statistics of the accidents of the Fourth of July and their results, developing the fact that at least 415 cases of lockjaw had resulted from these injuries It is unfortunate that these figures are the only complete ones ever compiled, for in summing up the cost of this year's celebration the number is relatively so small that we are confronted with the problem of determining whether the occurrence of tetanus as a sequel of Fourth of July accidents was unusually high last year, or unusually low this year Throughout the entire country there has been a general escape from tetanus that seems most remarkable for the total sum, instead of 415, as it was in 1903, is this year but 105 Our figures have been obtained from the same sources as last year and handled in the same way, omitting all doubtful cases, so that the comparison between the two sets of figures is a fair one, the errors in each presumably being proportional

In order that errors may be corrected, we publish, as completely as our information permits, the name and the chief factors in each case, as follows

TABLE I

	NAME	AGE.	CAUSE	SITE	DURATION* IN DAYS	RESULT
		CALIFORNIA				
1	Redmond Joseph	14	bl ctg	hand	8	D
2.	Bruzzone, J	9	cracker	hand	12	D
3	Cota L	11	bl ctg	hand	4	D
4	Ellison T	Adult	cracker	hand	7	D
		ILLINOIS				
1	Milkie H	12	bl ctg	hand		D
2	Johnson L	12	cracker			D
3.	Dice H	15	bl ctg	hand		
4	Muto Papino	11	bl ctg	hand	12	D
5.	Wiecezic		cracker	hand	9	D
6.	Engle Emil	14	bl ctg	arm	8	D
7	Hudsinsky	23	bl ctg	side	8	D
8.	Koski	16	bl ctg	hand	8	D
9	Rizzo	8	cannon		8	D
10.	Koch	18	cracker	hand	8	D
11	Tate, Jos	20	bl ctg	hand	20	D
12.	Cezon Jno	13			10	D
13	Shafer F	10	bl ctg	hand	10	D
14	Roy A. T	14	bl ctg	hand	10	D
15	Huber H M	12	bl ctg			D
		INDIANA				
1	Kirchner		bl ctg	hand	11	D
2	Holzer	14	bl ctg	hand	10	D
3.	Snell	15	cracker	hand	10	D
4	Cochrane		bl ctg	hand	11	D
5	Campbell	12	bl ctg	hand	10	D
6	Twaddle	15	bl ctg	hand	7	D
		IOWA				
1	Drebenstedt	19	cracker	face		R
2	Davenport	13	bl ctg	hand	9	D
		KANSAS				
1	Sullivan	16	bl ctg	hand	7	D
		KENTUCKY				
1	Tressler	16	cracker	leg	8	D
2	Faulkner	9	bl ctg	hand	7	D
		MAINE.				
1	Reed H	10	bl ctg	hand	6	D
2.	Fortier	10	bl ctg	hand	6	D
3.	Boothby	18	bl ctg		7	D
4	Stevens P	10		hand	7	D
		MASSACHUSETTS				
1	Dalton, Thos	20	bl ctg	hand	10	D
2.	Hunt T P	11	bl ctg	hand	11	D
3	Romano	8	bl ctg		6	D
4	Morris R M	9	bl ctg		7	D
5	Bunnell, H E.	25	cracker	hand	11	D
		MICHIGAN				
1	Schroeder	12	bl ctg	knee		R
2	Schreck	10				R
3	Peterson	15			9	D
4	Kretsch		bl ctg			
5	Rogers	adult	bl ctg		11	D
6.	Dickinson	adult	bl ctg	hand		D
7	Davis	11	pinwheel	hand	9	D
		MINNESOTA				
1	Drake Wm	12			20	D
2	Friedman, Esther	12	bl ctg	hand	7	D
		MISSOURI				
1	Walz	11	bl ctg	hand	9	D
		MONTANA				
1	La Belle	12	cracker	hand	15	D
		NEBRASKA				
1	Ellis, A	adult	cracker	hand	21	D
2	Green, Edw	31	bl ctg	hand	6	D
3	Langdale	11	bl ctg	leg	13	D
		NEW JERSEY				
1	Levinsohn	10	cracker	hand		R
2	Wiltsey	11	bl ctg	hand		D
3	Stang	12	bl ctg	hand	7	D
4	Preitschat	13	cannon	foot	9	D
5	Cuff	13	bl ctg	hand	11	D
6	Mundorff	11	bl ctg	head	14	D
7	Streeter	12	bl ctg	hand		D
8	Johnson S	15	bl ctg	hand	9	D
9	Decker, H	12	bl ctg	hand		D
		NEW YORK				
1	Weeks, Chas	9	bl ctg	hand	6	D
2	Ward, Jas	6	bl ctg	hand	13	D
3	Pickslay, Clara		bl ctg	hand	16	D
4	Perera G	25	cannon	hand	13	D
5	Jacobs H	13	bl ctg	hand	8	D
6	Austin, E	18	bl ctg	hand		D
7	Champagne	12	cracker	hand	10	D
8	Smith Emma	10	cracker	hand		
9	Waterman	6	bl ctg	hand	9	D
		OHIO				
1	Booth W K	17	bl ctg	hand	9	D
2	Van Camp	13	bl ctg	hand	11	D
3	Ferguson	20	cracker	face		
4	Noell	12	bl ctg	hand	10	D
5	Wiggins	12	bl ctg	hand	9	D
6	Woods H	21	cracker	hand	9	D
7	Yeon	12	bl ctg	hand	6	D
8	Toenisson	10	bl ctg	hand		
9	Drescher	26	bl ctg	hand	16	D
		PENNSYLVANIA				
1	Smith, Raymond		bl ctg	hand	17	D
2	Shill, B	13	bl ctg	hand	7	D
3	Gatschock	21	bl ctg	hand	7	D
4	Yeager, A	8	bl ctg	hand	10	D
5	Sirson	7	bl ctg	hand	14	D
6	O Neil Jas	11	bl ctg	hand		
7	O Toole Thos	11	bl ctg	hand		
8	Jenta	14	bl ctg	hand	6	D
9	Lutz, H J	16	bl ctg	hand	10	D
10	Crutchley	12	bl ctg	hand	12	D
11	Rowlands	9	bl ctg	hand		
12	Milinsky	14	bl ctg	hand	6	D
13	Baker, Chas	11	bl ctg	hand.		D
14	Pressly	17	cannon	foot.	8	D
15.	Koschin	8	bullet	foot		
16.	Sager	9	cracker	hand	6	D
17	Rickhard	10	bl ctg	hand	11	D
		UTAH				
1	Barber	18	cracker	hand		R
		VERMONT				
1	Cross Ernest				9	D
2.	Duchaine	9	bl ctg	hand		D
		WASHINGTON				
1	Jones A L	8	cannon	breast	15	D
		WISCONSIN				
1	Weigt	11	bl ctg	leg		D
2.	Lillis	15	bl ctg	hand	9	D
3.	Schreck		bl ctg	hand		D
4	Petersen	14	bl ctg	hand	8	D

*Including the time between the receiving of the wound and death

Arranged for comparison with last year, state by state, we can appreciate how general this improvement has been by referring to Table 2

Going over the history of tetanus epidemics as recorded in the statistics of various health departments in several of the larger cities for several years past, we are forced to the conclusion that the apparently very great mortality of last year was not greatly in excess of what it usually has been, taking the country as a whole In some places it was probably unusually frequent, as in Pennsylvania and some cities of Ohio, but in other places, where records of previous years were kept, it was apparent that last year was nothing unusual in this respect For example In 1900 Chicago had 22 deaths from Fourth of July tetanus, while last year there were about 16, and the preceding year 12 New York City, in 1899, had nearly 20, which was, if anything, in excess of last year The tetanus record of 1903 was only apparently large, due to the fact that it was the first time that all the cases in the country were ever collected and published in their enormous total There is every reason to consider, therefore, that the deaths from this cause during the epidemic of this year represent an actual decrease from the ordinary course of events Cities in which previously each Fourth has been followed by from 5 to 10 cases of lockjaw, have this year escaped without a single case Last year Toledo had 8 deaths and this year none, many other cities show a similar escape Chicago had but 5 deaths from tetanus originating in blank-cartridge wounds, which is, with but one exception, the lowest record ever made by that city All over the country the story has been the same The least number of accidents in any year we can remember, and no tetanus"

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[1] THE JOURNAL A M A Aug 29 1903

TABLE 2

	1903	1904
California	2	4
Colorado	4	0
Connecticut	3	0
District of Columbia	1	0
Idaho	1	0
Illinois	40	15
Indiana	11	6
Indian Territory	1	0
Iowa	14	2
Kansas	11	1
Kentucky	4	2
Maine	2	4
Maryland	1	0
Massachusetts	18	5
Michigan	29	7
Minnesota	15	2
Missouri	29	1
Montana	2	1
Nebraska	4	3
New Hampshire	2	0
New Jersey	8	9
New York	36	9
Ohio	67	9
Oregon	2	0
Pennsylvania	82	17
Rhode Island	3	0
Utah	0	1
Vermont	3	2
Washington	2	1
West Virginia	3	0
Wisconsin	10	4
Total	415	105

What is the cause of this splendid improvement? Is it not the result of unusually unfavorable conditions for the tetanus bacillus instead of any cause dependent on other factors? Again, it is to be remembered that it occasionally has happened that for some reason that can not be detected there has been a local escape from Fourth of July tetanus during some years For example, in 1901 there were but 4 deaths in Chicago, and 5 in New York, far below the usual number for each city, and without evident reason May not this year be a similar exception? We have gone over all possible sources of information to decide this point, utilizing reports from hospitals, newspapers, medical journals and correspondence, and the conclusion reached has been against either of these explanations That it is not due to an unusual infrequence of the tetanus bacillus is quite conclusively shown by the fact that during the month of July of this year tetanus from wounds other than those incurred in celebrating the Fourth, has been very frequent, if anything, more so than usual Last year, among the reports received, were 15 of tetanus from simple injuries, this year there were 55, nail wounds, compound fractures and other injuries having frequently had this fatal sequence

The decrease in the disease has also not been local, but spread generally throughout the country Rather, it would seem, the improvement is due to two very essential factors—decrease in the number of wounds received during the celebration of the day, and better care of the wounds that were received

Almost without exception our reports from all places have indicated that the number of wounds was unusually small The statement often received from hospitals has been "This year we had made unusual preparations to care for Fourth of July injuries, on account of the frequence of tetanus last year, but were agreeably disappointed in having almost no cases" The decreased number of injuries seems to depend entirely on the "campaign of education" that has been going on this year as never before Always the daily papers have done a great deal in the way of warning the public of the dangers of Fourth of July celebrations, and urging improvements in its manner of celebrating, but never with such a grand unanimity as this year

When the epidemic of last year was sweeping the country there arose a general demand that such things should be prevented, but it was a repetition of the annual cry, a little increased in force When THE JOURNAL published the summary of the celebrations' cost in life and blood—466 dead and 3,983 injured—a new impulse was given to the receding wave of public indignation

LOCAL ORDINANCES TO PREVENT SALE OF EXPLOSIVES

Fortunately, this did not spend itself in clamorings last autumn, when there was little that could be done because of the remoteness of the next celebration The lesson had been too costly to be easily forgotten One by one events happened to call attention to the need for improvement In this city and in that, new ordinances were adopted to make possible some effective control of the sale of dangerous weapons and explosives The public interest in the topic had become sufficient to warrant correspondents putting accounts of the passing of these new laws on the press wires, and so they aroused attention at frequent intervals throughout the entire country Many medical societies passed resolutions urging the passing of new laws or the enforcement of existing ones, quoting the above figures as impressive evidence of the need of a change, these resolutions were published in the daily press, often accompanied by editorial comment, and in this way the matter was stirred up from another side

Then the press itself took an active interest in the matter, doctors and hospitals were visited, and from them good, sound facts and figures were obtained which were worked up into more or less fanciful "stories" by the versatile reporters We have before us stacks of clippings of articles, published in advance of the Fourth, which make it seem that scarcely a paper in the "tetanus belt" failed to sound an alarm In Chicago some public-spirited citizens attempted to control the celebration of the Fourth entirely, and incorporated an association for that purpose Although it did not receive sufficient financial support to enable it to carry out its large plans, yet it aroused much interest and discussion, and its war cry, "A Sane Fourth," became a by-word With all these factors at work, it is difficult to see how any person who reads the daily papers—and who does not—could have escaped learning that the Fourth is a serious affair, and that blank-cartridge wounds are dangerous sources of lockjaw

EDUCATION OF THE LAITY

The outcome was threefold First, there was the birth of new ordinances in many cities, giving power to the authorities to control the sale of blank cartridges and pistols to minors, or the removal of dust and other incrustations of disuse from the ordinances of other cities where such laws had lain dormant

Secondly, there was made the beginning in the development of a public spirit that was willing to have the laws enforced, so that not a few prosecutions of sellers of firearms to minors were made Thirdly, parents were incited to a more careful supervision of the ways and means of celebration by their children, and even the children themselves often obtained some slight education from their school teachers or parents Consequently, the day passed off with a much smaller number of accidents than had been generally anticipated

In the same way the knowledge of the necessity for very thorough treatment of Fourth of July wounds to prevent the development of tetanus grew among the public, while active campaigning on the part of the medical journals achieved the same results among the physicians For the first time there became something like a general appreciation of the fact that every blank-cartridge or fire-cracker wound is a most likely source of lockjaw This is well reflected in the newspaper clippings A year ago the statement would generally be made that "Eddie Smith shot himself in the hand with a blank-cartridge pistol The wound is not dangerous" This year such statements were seldom seen, but usually they finished with "There is great danger that lockjaw will result" Frequently also would be added "Dr A, who dressed the wound, has sent for some antitoxin, which will be administered as soon as it arrives, in the hope that the onset of lockjaw can be prevented" The sudden change in the situation in one year, as shown by comparing the clippings of last year with those of this July, is indeed remarkable and fortunate, it has probably saved two or three hundred lives

From the reports received it is safe to say that more blank-cartridge wounds were cleaned out under anesthesia, and more doses of antitoxin given prophylactically than after all the Fourth of July celebrations of previous years together Most of the city hospitals and dispensaries that treat large numbers of accident cases equipped themselves with antitoxin before the Fourth and injected it into patients with this class of wounds, in addition to unusually thorough surgical treatment of the wounds themselves

The results were manifest So far as we have been able to learn from a number of sources, not a single patient so treated developed tetanus The most conclusive statement that we have received comes from St Louis It will be noticed that Missouri shows the greatest improvement of any state in the country, practically eliminating Fourth of July tetanus this year, when but one case was reported, as against 29 last year Most of these 29 deaths of a year ago occurred in the two large cities, St Louis and Kansas City, as was the case in all the states, the cities furnishing most of the deaths The following letter explains plainly enough why Missouri escaped

> City of St Louis Health Department,
> St Louis, Mo, Aug 12, 1904
>
> *To the Editor* —Replying to yours of the 10th inst, I have to state the following There were treated in the City Dispensary 36 cases of gunshot wounds, without a single death from tetanus A few days prior to the Fourth of July I issued an order to the city dispensaries to the effect that every case in which there was a possibility of tetanus occurring should be injected with antitetanic serum This order was faithfully carried out, with the result above noted
>
> Last year, out of 56 cases treated there were no less than 16 deaths In a few days I shall be in possession of a report from the chief dispensary physician, and if you so desire I shall be glad to mail you a copy
>
> J H Simon, M D, Health Commissioner

The lesson is plain

An interesting bit of corroboration of the effect of the campaign of education may be brought out by the following fact The reduction in the number of deaths this year occurred in the large cities rather than in the country As near as can be estimated the deaths in the country towns were over half as abundant as last year, while the large cities reduced theirs to zero in many instances, and by 75 to 90 per cent in most of the others The city populace, both lay and medical, is more quickly reached by campaigns of this kind because of the more general circulation of the newspapers, also a large proportion of the city poor with such wounds go to hospitals and dispensaries which are prepared to give them the treatment they need The injured boy in the country is more likely to receive "home treatment," and quite unlikely to obtain surgical treatment

For all of the reasons given above, we must conclude that the reduction in mortality is the result of a decreased number of dangerous wounds, and better care of those that were received, both conditions being due to a more general appreciation by both profession and laity, of their very great danger

DISTRIBUTION

Considering this year's epidemic by itself, and also comparing it with that of last year, we notice that there has been some change in the matter of distribution Pennsylvania leads, as it did last year, with 17 deaths, as compared with 82 a year ago, a decrease of nearly 80 per cent In last year's epidemic 17 cases in one state would have put it in seventh place Illinois passes from third in the list to second, although the actual number of deaths, 15, represents a decrease of 70 per cent from the 49 of last year, this is because Ohio dropped from 67 to 9, an improvement of over 86 per cent, putting it in a tie with New York and New Jersey, Ohio's improvement, like that of Pennsylvania, Missouri and the other states, being due particularly to efforts by the organized forces of the larger cities Last year Missouri and Michigan were tied in fifth place, with 29 deaths each, and although Michigan reduced the deaths by 75 per cent, her 7 is much above Missouri's remarkable reduction to 1 death Four of the states show an increase New Jersey from 8 to 9, California from 2 to 4, Maine from 2 to 4, Utah has 1 death this year, while last year it had none

The number, however, is so small in each that the increase is to be regarded as accidental It is easily possible for such numbers of cases to escape collection entirely one year, and to be collected another year As always, the southern states escape because of a less and a different celebration

AGE OF VICTIMS

Age is, of course, low, yet not a few adults suffered the penalty of playing in the thoughtless manner of youth, while others were injured in accidents that they could not avoid A very few girls also met with accidents of the same kind

NATURE OF THE WOUND

Again, the blank cartridge asserts itself as the cause par excellence of tetanus Of the cases on which information on this point could be obtained, there were 74 from blank cartridges, 18 from cannon fire crackers, 5 from cannons, 1 from bullets, and 1 from a pin-wheel, or 74 per cent from blank cartridges A year ago, however, there were 358 blank-cartridge wounds against 29 from other causes, of which 17 were cannon crackers and 5 cannons

This shows a great reduction in the number of blank-cartridge cases, with the cannon crackers and cannons holding their own It would be interesting to know if this was because particular attention was directed to the dangers of blank cartridges and their wounds as a cause of lockjaw, but no way of ascertaining this is possible As usual, most of the wounds were in the hands, with occasionally one in the leg or other part of the body

TABLE 3—SUMMARY BY STATES OF JULY FOURTH CASUALTIES

State	Deaths			Injuries						Total Persons Dead or Injured	Causes of Tetanus Cases		Causes of All Cases Aside from Tetanus Cases				
	From Tetanus	From Other Causes	Total	Loss of Sight	Loss of One Eye	Loss of Legs, Arms or Hands	Loss of Fingers, One or More	Other Injuries	Total Non fatal Injuries		Blank Cartridge	All Other Causes	Blank Cartridge	Fire Crackers	Cannon	Gunshot	Powder and Fireworks
Alabama		1	1			1	1	4	6	7			2	2	1	1	1
Arizona																	
Arkansas																	
California	4	5	9	1	1	3	3	121	129	138	2	2	23	43	13	10	45
Colorado							2	42	44	44			22	8		4	10
Connecticut		4	4		1		5	123	129	133			39	30	15	16	33
Delaware				1				4	5	5				3	2		
Dist of Columbia		1	1					9	9	10				6		3	1
Florida								2	2	2			1	1			
Georgia																	
Idaho								4	4	4			2	2			
Illinois	14	8	22	2	6	5	20	368	401	423	10	3	103	154	41	41	70
Indian Territory																	
Indiana	6	5	11	3	7	5	5	180	200	211	5	1	50	71	14	9	61
Iowa	1	1	2		4	1	8	122	135	137	1	1	32	45	16	10	23
Kansas	1	3	4	1		1	1	81	84	88	1		28	23	11	7	18
Kentucky	2	2	4	1	1	1	4	61	68	72	1	1	18	14	14	7	17
Louisiana								2	2	2					1	1	
Maine	4		4		1	2	2	23	28	32	3		8	12	2	4	2
Maryland		1	1					21	21	22			2	8		4	8
Massachusetts	5	2	7		1	2	8	175	186	193	4	1	37	74	13	15	49
Michigan	4	2	6	1	1	3	13	133	151	157	4	1	37	51	25	10	30
Minnesota	2	1	3	2	3		8	85	98	102	1		19	36	9	6	29
Mississippi																	
Missouri	1	3	4		2	2	7	69	80	84	1		31	17	3	4	28
Montana	1	2	3		1	1	2	10	14	17		1	1	7	4	3	1
Nebraska	3	1	4		7	1	5	46	59	63	2	1	18	14		14	14
New Hampshire							3	20	23	23			7	5	4	2	5
New Jersey	8	7	15		2	3	9	175	189	204	7	2	35	45	24	33	59
New Mexico						1		3	4	4					2	1	1
New York	8	14	22	1	5	7	22	492	527	549	6	3	33	142	66	92	108
Nevada								1	1	1		1				1	
North Carolina																	
North Dakota						1	2	5	8	8			1	6			1
Ohio	7	8	15	3	8	6	18	277	312	327	7	2	77	120	146	15	54
Oklahoma								3	3	3			1				2
Oregon		1	1	1			2	9	12	13				9	1	2	1
Pennsylvania	13	13	26	2	8	11	34	663	718	744	14	3	147	187	47	74	276
Rhode Island								30	30	30			4	7	7	5	7
South Carolina								10	10	10			1				9
South Dakota								1	1	1							1
Tennessee								2	2	2							2
Texas		3	3					19	19	22		1	1	8			13
Utah	2		2				1	11	12	14	1		4	6	1		1
Vermont		3	3					8	8	11				1		7	3
Virginia	1		1			1	2	21	24	25		1	3	6	1	3	12
Washington							2	14	16	16			1	12	2		1
West Virginia	4	1	5		2	3	19	186	210	215	4		42	83	23	3	60
Wisconsin								2	2	2			1	1			
Wyoming																	
Total	91	92	183	19	61	61	208	3637	3986	4169	74	25	931	1268	508	406	1056

DEATHS AND INJURIES ASIDE FROM TETANUS

In connection with the above statements, the facts submitted in Table 3 are of great interest This table summarizes the injuries of all kinds, including tetanus, received in the celebration of the Fourth of July It shows that in addition to the 91 deaths due to tetanus, 92 individuals gave their lives as sacrifices to the national holiday, a total of 183 deaths The casualties from the same cause which did not result in death number 3,986, or 3 less than the figures recorded for 1903 Of these, 349 were of a relatively graver nature, and included 19 cases in which the victim was totally blinded, 61 cases of loss of sight of one eye, 61 cases of loss of leg, arm or hand, and 208 cases in which amputation of one or more fingers was necessitated These figures are slightly in excess of the corresponding items of last year It is noteworthy that the deaths from causes outside of tetanus are increased more than 50 per cent, but no satisfactory cause can be adduced for this increase

Blank cartridges, toy pistols and dynamite canes caused 931 injuries, or nearly 378 less than were recorded from this cause last year Firecrackers caused 1,268 casualties, or 116 more than last year Accidents from careless handling and explosion of cannons and toy cannons caused 508 casualties, or 111 more than in 1903 The number of accidents from gunshot wounds shows a marked increase this year, the respective figures as compared with those of 1903, being 406 and 236, an excess of 170 for the present year Casualties from powder and fireworks numbered 1,056, an increase of 325 over the figures for 1903

We consider that the increase in the number of nonfatal injuries reported does not indicate that more injuries occurred this year than last, but we think that it is due to the fact that more attention was paid to the subject this year, owing to the agitation of the subject through the efforts of The Journal, in which nearly every newspaper in the country assisted This interpretation of the figures shown does not apply, however, to the 50 per cent increase in the number of deaths from causes aside from tetanus for such a death is pretty sure to be chronicled

A detailed list has been compiled of the 4,449 persons dead or injured, giving the name or description of each, the nature of the injury and the cause These are classified under cities and states, and from this list Table 4 has been prepared Only such cases have been listed as presented names and data, or, in the absence of the name, a case has been included when it bore such marks of identification that it could be distinguished from other cases in the same city All doubtful cases have been omitted, as well as injuries from runaways, fright, fires or other indirect injuries even though the cause of the accident was a firecracker or other explosive

The first column of *causes*, that of blank cartridges, includes blank cartridges and toy pistols, also a large proportion of injuries from the use of the cartridge cane

DURATION AND PROGNOSIS OF TETANUS

As is usual with children, the period of incubation and the duration of the disease are usually short, although in the series for this year the time seems to be somewhat longer than last year, which may be more apparent than real, and due, perhaps, to the greater number of adult victims A very early onset and a rapid course is frequent in these cases The prognosis seems to have been bad, fully as bad as last year In a number of the cases of our series we were merely informed that the patients had developed tetanus, but for one reason and another did not succeed in learning the final outcome All such cases we have left blank in the "result" column Of definite recoveries we have information concerning but four, while two others were reported as "recovering"

This corresponds closely with the record of last year, when we learned of 7 actual recoveries among 415 cases, and shows only too conclusively the hopeless nature of Fourth of July tetanus, once it has developed We have also very positive evidence that it is much more fatal than tetanus from other wounds, for during the same period of time we learned of 55 cases produced by ordinary accidents, such as nail wounds compound fractures, etc, of which 10 recovered, and in 8 the result was not learned, making the mortality approximately 80 per cent

The reasons for this greater mortality in Fourth of July tetanus are probably two-fold First, the average age of the patients is somewhat younger yet not so much so as might be imagined, for a very large proportion of the every-day cases is furnished by the barefooted boy who steps on nails, glass and slivers

Second and perhaps most important, is the nature of the wound As we have pointed out in other articles the great amount of tissue laceration, necrosis and hemorrhage furnishes ideal conditions for the multiplication of the tetanus bacillus with a correspondingly large quantity of toxin produced and absorbed It would seem that no great improvement in the treatment of tetanus has been made, but this matter we will discuss later under the heading of treatment

THE CAUSE OF FOURTH OF JULY TETANUS

In our article of a year ago we discussed very thoroughly the question of the origin of the infecting bacilli, because there had been a great deal of controversy as to whether the bacilli were contained in the cartridges themselves After considering the evidence available for each side of the question, we came to the conclusion that there was no convincing evidence that blank cartridges contain tetanus bacilli, except possibly as a rare contamination when they have been exposed to dirt On the other hand, there was abundant evidence that they were present in the street dirt and on the persons and clothing of the injured people The most reasonable assumption at that time was, therefore, that the organisms are carried into the wounds from the surface at the time of the accident Since that time there have been no developments calling for any modification of this view

Occasionally brief notices have appeared that this or that person has found tetanus bacilli in blank cartridges, but so far as we have been able to learn no definte reports of such findings have found their way into medical literature While there is no particular reason why tetanus bacilli may not be found in blank cartridges, still there is no particular reason why they should be there. The raw materials of which the cartridges are made are not such as to render them likely occupants of the cartridge, and the method of manufacture is such as to make their destruction almost certain

The popular idea of the presence of dirt in the powder or dirty straw in the wads seems unfounded. It is on record that 759 cartridges, representing all makes, have been examined by Wells, Taylor, La Garde and the Boston City Health Department, all with negative results The incomplete reports of positive findings may be due to the occurrence of the forms of pseudo-tetanus bacilli, described by Bain and by Wells, which, without animal experiments, might readily be mistaken for the pathogenic form, although they themselves are harmless saprophytes

The great danger of blank-cartridge wounds seems to lie not in the presence of the specific organisms in the cartridges, but rather in the favorable nature of the wound As we have explained more fully in previous articles, their form and location favors ideally the development of these anaerobic organisms, and they are received at a time of year when tetanus is most abundant and by persons who are particularly well supplied with the germ-ladened street dirt.

That this year 26 per cent of the cases came from wounds made by giant crackers, cannons and bullets, would seem to indicate that the blank cartridge has no monopoly on the bacillus if it is contained in the explosive, as some have maintained The only thing these different explosives possess in common is the powder, yet we do not hear of tetanus following the very abundant accidents in which hands and faces are burned with powder and often blown full of the grains And also, it should be remembered that 55 cases of tetanus produced by simple injuries were brought to our attention during the month of July All these considerations make it seem more probable than ever that in most, if not in all instances, the infecting bacilli come from the dirt carried into the wound, and not from the explosive itself

PREVENTION AND TREATMENT

The history of the past two years shows plainly that something can be done in the way of prevention and also that a good start has been made in the right direction It now remains to be seen if progress will continue Unquestionably, the proper point of attack would be the prevention of the wounds which cause the disease, and this can be achieved only by preventing the use of pistols, cannon crackers and cannons Had this been done this year there would have been but one death from lockjaw as a result of the celebration Enough was done, however, to certify to the feasibility of the enforcement of laws in this direction

The enforcement of laws, however, rests always on the state of public sentiment, and no better illustration could be offered than the experience of the city of Toledo Last year Toledo suffered in proportion to population more than any other city in the United States, losing 8 lives from lockjaw, besides having many other injuries This year Toledo not only escaped loss of life, but also suffered no accidents whatever, and the dependence of this on the state of public sentiment is conclusively shown by the following letter

> Department of Health, City of Toledo, O, Aug 6, 1904
>
> *To the Editor* —Your letter of the 5th inst in regard to Fourth of July mortality at hand and contents noted
>
> It is a great pleasure to me to report that there was not a single fatality of any kind following our Fourth of July celebration, nor were there reported to us any injuries which did not prove fatal
>
> Indirectly, this condition of affairs resulted from an ordinance passed by the City Council regulating explosives, though it must at the same time be borne in mind that our late mayor, Hon Samuel M Jones, was on his death bed, and, as he had expressly wished for a quiet Fourth, and had been the leading spirit in the passage of this ordinance, the love that the people of the city bore him caused them to be unusually careful
>
> W W Brand, Health Officer

The improvement in the cities as compared with the country may, in part, be due to the possibility of police regulation of the sale of dangerous explosives, and just as the laws were enforced so the city escaped or suffered For example Chicago enjoyed a great decrease in mortality, but still lost five lives from blank-cartridge wounds, corresponding to a much-improved but still somewhat defective control of this sale This is shown by the investigation by one of the daily papers, which has always taken an active interest in this subject, reported as follows

> An investigation made yesterday by the *Tribune*, with the aid of a 14-year old boy who did not appear to be more than 11 years of age, showed that the law generally was ignored Within a few hours this boy purchased in small stores located in different sections of the city three cartridge toy pistols, one paper cap toy pistol, fifteen cannon crackers of various sizes, and three explosives which the woman shopkeeper said she thought were "cannon crackers," although she did not know just what they were
>
> In each of the stores where the boy purchased the toy pistols cannon crackers also were on sale At a number of places visited he was refused pistols or cannon crackers on the ground that the Fourth of July does not come until Monday, or because they "had sold one and got into trouble over it" At several stores he was denied cannon crackers but was offered sky rockets and other fireworks, the sale of which is forbidden by section 676 of the municipal code of 1897 although this section of the ordinance is not enforced during the Fourth of July season
>
> The territory covered included only a portion of the south side, and the north side to North avenue In only one north side store was the boy able to buy either a toy pistol or a cannon cracker He secured a paper cap pistol at Bachrach's, in North Clark street All of the other dealers in this section either declared they had no cannon crackers or toy pistols, or that they were not allowed to sell them to minors

Compared with our experience of a year ago, this shows a decided improvement, although still far from the right state of affairs It seems to have been about the same in most of the other cities

What is now to be dreaded is that even the partial correction of this crime of selling pistols and giant crackers to children that has been accomplished this year may not be continued next year There is no question that the manufacturers stand ready to supply and to push the sale of these death-dealing toys, regardless of consequences, and unless the agitation continues, the candy and notion store will supply the materials for self-destruction as before Undoubtedly, the proper place in which to check the trouble is in the manufactories themselves Not until there exists laws prohibiting the manufacture and importation of toy pistols, blank cartridges, giant crackers, and any other equally fiendish instrument of disorder that can be devised to take their place, shall we be free from a greater or less annual epidemic

Vigorous efforts on the part of the authorities of each community can decrease the severity of the epidemic, but so long as these things are obtainable small boys will die of lockjaw It is in such matters as this that a medical representative in the higher branches of government could accomplish much for preventive medicine We would repeat the suggestion that the Association take up this matter at its next meeting, and attempt to arrive at a means for securing legislation directed toward the prevention of manufacture or sale of these articles As they have no use whatever outside of purposes of celebration there can be no logical reason for insisting on their production, except the demands of commercial enterprise

The children will have plenty of means left for celebration in the way of torpedoes, small fire crackers, pistols shooting the harmless paper caps, and display fireworks The chief nerve-rackers of the day would be gone, and the substitution of a "sane Fourth" might become a possibility, using methods of celebration of our real national holiday better adapted to inculcate patriotism than are those now in use, which smack more of red anarchy with its bombs and pistols

In the meantime, let us as a profession encourage and aid in all ways the efforts of the daily press to educate the public to the dangers of present conditions that the progress made this year may be continuous

Antitoxin —The prophylactic treatment of all blank-cartridge, giant-cracker and other similar wounds of the Fourth has been demonstrated to be positively successful many times before, but probably never on so large a scale as this year Not only was thorough cleansing of the wound by vigorous operative measures enforced with great success and frequently, but prophylactic injection of antitoxin was employed in more cases than ever before In many large cities the hospitals and dispensaries were provided with antitoxin before the Fourth and used it on all cases of injuries of this character, and not a few private practitioners used it in cases coming into their care We have now records of upwards of a thousand administrations of antitoxin in this way without a single untoward result of any importance, and without a single case of tetanus developing What motive can there be, therefore, in treating a Fourth of July injury without the prophylactic injection? The cost can not be a consideration when the danger is considered on the one hand, and the abundant sources of charity for those actually unable to afford it on the other Let us repeat the figures of the St Louis health commissioner Last year, of 56 blank-cartridge wounds treated by ordinary means, there were 16 deaths from lockjaw This year 36 similar wounds were treated with antitoxin injections without a single death What could be more conclusive than that? And also, in the Harlem Hospital, there were treated 100 pistol wounds without a single case of tetanus following, antitoxin being used freely[2]

But what is to be said of physicians who saw blank-cartridge wounds this year, washed off the surface, applied a dressing, and told the parents that there was no danger? There were several, how many we can not know, but a good many of the 105 who died from tetanus owe it to the "care" of such men as these If at this time there is a man practicing medicine who does not know how to treat a blank-cartridge wound, what is he fit to treat?

We can add nothing to the suggestions made before the Fourth[3] Thorough exploration of the wounds, removal of every particle of foreign matter and necrotic tissue, and free drainage from the bottom is the only rational and safe procedure, followed as soon as possible by an injection of 5 to 10 c c of tetanus antitoxin It has been suggested that dry powdered antitoxin be sprinkled over the wounded surfaces, but the operation of injection is such a simple one and so much more certain that it seems to us far better, particularly as we have learned of one case of the use of the antitoxin powder that was followed by tetanus As this method of treatment is so absolutely efficacious the 105 deaths from tetanus mean just so many instances of criminal neglect or carelessness on the part of some one, usually, but not always, the patient or his parents

We can not boast of the results of the treatment of these cases, with a mortality between 95 and 98 per cent, but so far as we have learned, in but a few were any of the more advanced methods, described in the article referred to, given a fair trial Many of the patients first received medical treatment less than twenty-four hours before their death, being in the last agonies of acute tetanus Most of the others were treated in the usual way, with sedatives and subcutaneous use of antitoxin In view of the ineffectiveness of this method, it is well to discard it for anything that promises better, and according to the results so far obtained, the most hopeful method consists in the injection of the antitoxin into the spinal canal, preceded by withdrawal of as much as possible of the toxic cerebrospinal fluid, and accompanied by injection of antitoxin into the large nerve trunks leading from the injured part The details of this treatment will be found in our article of June 18, 1904

Injection of Salt Solution—The salt solution advocated by Mathews, which depends largely on the effect of the calcium it contains in lessening muscle irritability, has been used, to our knowledge, in one case of blank-cartridge tetanus A marked lessening of the rigidity was observed and the force of the contractions greatly lessened, so that the boy seemed in a fair way to recover from the tetanus, but unfortunately he developed an aspiration pneumonia and died on the fifth day, so that the final result of the injections can not be determined One case of tetanus following a barbed-wire injury treated in this way in Iowa during July has recovered As the solution does not interfere with the administration of antitoxin in the ways recommended the salt solution may be used as an adjuvant until we can learn something of its value

The same may be said of Murphy's suggestion, the use of eucain and morphin in intraspinal injections, reported by him in THE JOURNAL, Aug 13, 1904 In fact, it is perfectly possible to combine the various methods of treatment most generally used, and thus give the patient the benefit of their several possibilities, only care must always be taken not to disturb him too much

TRAVEL NOTES

VII *

A WINTER SEMESTER

LEWELLYS F BARKER, M D

CHICAGO

MUNICH, July 21, 1904

For a certain period the globe trotting method of travel may please and satisfy, but after a time it palls When picture galleries have been seen by the dozen, palaces by the score, and churches by the hundred, the esthetic sense becomes over saturated and refuses to take up more The alimentary tract, too, rebels against the bustle of the railway station and the continuance of life in "grand hotels" The centers of benevolence gradually undergo cloudy swelling, hypertrophy with tendency to degeneration, through enforced over activity in the matter of *la buonamano* Desultory visiting of hospitals and physicians, easily stimulating for a time, meets with an ever rising threshold as the weeks pass The body craves a more regular life and the mind demands greater intensity and less diversity of occupation It is, therefore, with a feeling of relief that, entering Germany from Italy, the physician finds in Munich a city eminently suited to a medical stay of months rather than of weeks or days, a city which while offering unusual opportunity for the quiet enjoyment of life, also presents exceptional facilities for more concentrated medical work

MUNICH

The *Münchener*, celebrated for his *Gemüthlichkeit*, gives the visiting stranger a warm welcome, points with pride to his university, directs him to the Pinakotheks and Glyptothek, tells him of the theaters, of the opera and of the concerts in the Kaim Saal, recommends his favorite brew of beer, and offers to meet him at the Café Luitpold, the Rathskeller, or the Künstlerhaus

No better place could be chosen for an overworked nervous American to recuperate in The air, as is well known to German neurologists, is especially beneficial to the neurasthenic, and the Bavarian motto *Der Mensch ist kein Eilwagen* is more easily lived up to in Munich than in most places

In the southeastern part of the city, between the *Sendlinger Thor* and the *Theresienwiese*, you find the general hospital, the various clinics, and the scientific institutes of the medical faculty A strong group of men is at work there The venerable Karl v Voit is at the head of the physiologic laboratory, ably supported by Max Cremer and Otto Frank Since v Kupffer's death Johannes Rückert has been professor of anatomy, descriptive and topographic, and Siegfried Mollier is also professor of anatomy, histology and embryology The distinguished Otto Bollinger is professor of general pathology and pathologic anatomy, with Hans Schmaus and Hermann Dürck as members of his staff After Buchner's death Max Gruber (of the Gruber Widal reaction) was called from Vienna to succeed him as professor of hygiene and bacteriology, Martin Hahn is extraordinary professor in the same laboratory, and Dr. Tromsdorff is assistant. R. Emmerich is also a professor of hygiene, and v. Tappeiner has pharmacology. On the clinical side Munich is fortunate in having as professor of internal medicine a man regarded by many with whom I have talked as the foremost clinician in Germany, namely, Friedrich Müller. Formerly von Ziemssen had had the medical clinic and von Bauer the propadeutic. When von Ziemssen died the chair of medicine and the medical clinic were divided between v. Bauer and Müller. Surgery is headed by von Angerer, a genial man, much beloved by his patients, a favorite in court circles and known as a good shot in the hunting field. v. Winckel is the gynecologist and Eversbusch the ophthalmologist. In psychiatry Munich has been lucky enough to secure the best man in the country in the person of Emil Kraepelin. When his new psychiatric institute, now building, is completed, the opportunities for the scientific study of psychiatry in Munich will probably be unparalleled. As my time in Munich was given over almost entirely to Friedrich Müller's clinic and the State Chemical Laboratory, I am better able to write of the work in internal medicine there than of the work in the other medical branches.

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[2] Correspondence from Dr W H Luckett.

[3] Prophylaxis and Treatment of Fourth of July Tetanus THE JOURNAL A M A, June 18 1904, p 1621

*The previous articles in this series have been as follows 'Travel as a Means of Post Graduate Medical Education," by Dr Nicholas Senn July 23 Is a Trip to Europe Worth Its Cost to the Medical Man? by Dr Lewellys F Barker July 30 Spain and Ramon y Cajal, by Dr Barker Aug 6 Leprosy in the Hawaiian Islands,' by Dr Senn, Aug 13 Italy and the Great Antimalarial Campaign by Dr Barker Aug 20 and 27 Father Damien the Leper Hero by Dr Senn Aug 27

One drawback to the medical clinic in the Bavarian capital is the lack of a real university hospital. The internists are compelled to use the General City Hospital with all the hindrances to scientific work which such an arrangement entails. It is a great pity that a large city like Munich, with so able a faculty, has not its own university hospital, where selected cases could be studied and treated. But the university has formed a close alliance with the city hospital, and von Ziemssen was able to secure a special university building built in juxtaposition to it, known as the Medical Clinical Institute, fitted with teaching laboratories, lecture amphitheaters and research rooms.

The amount of clinical material available for study and teaching is not great; it does not compare in amount or variety to the clinical material of Berlin, Vienna, London or Paris. It could, however, be increased, and doubtless through Friedrich Müller's influence will be. Moreover, it is just possible that the material is better worked up as it is than if it were accessible in greater quantity and diversity.

When Müller accepted the call to Munich a new arrangement was made. Instead of "Medical Clinic" and "Propadeutic Clinic," the Institute and work were divided into two equal and co-ordinate parts, the First and Second Medical Clinics. Each clinic is independent of the other. Students may attend either of the clinics or both, but must be examined by two or three professors—Müller, v. Bauer and May (the latter is at the Poliklinic). Each half of the Institute has its own separate and distinct lecture room and laboratories, and each professor has his own wards in the General Hospital. The teaching laboratories are in one part of the clinical building while the laboratories for strictly scientific work are in another, more secluded part. There is a library of internal medicine used in common by the two clinics. In the teaching laboratories opportunity is afforded for instruction in clinical microscopy, clinical bacteriology and clinical chemistry. The more strictly research laboratories are excellently designed for investigation in chemistry, bacteriology, physiology and pathology. It is admirable to see the effort made to bring these sciences directly to bear on the clinical cases. While much can be done, as has been demonstrated in America, by a harmonious working together of the clinic on the one hand, with the laboratories of pathology, physiology, bacteriology and chemistry proper on the other, still scientific work must surely make more rapid progress when special laboratories for the direct application of the methods of these sciences, manned by skilled workmen, are installed in the clinic itself. Some excellent research is going on in the laboratories under Müller's direction, especially along the chemical lines in which he is so deeply interested.

Just here I may be permitted, perhaps, to digress in order to make a few general remarks concerning the difficulties which so far as I know confront would-be workers in clinical laboratories in all countries, difficulties which for the most part are due to the lack of proper laboratory organization. The clinical laboratory is everywhere, as yet, an unformed creature, a more or less chaotic appendage, subsidiary in interest and in regulation to the work of the wards. This is largely due to insufficient staff, insufficient funds, and, except in a few clinical laboratories, to insufficient interest in the clinical laboratory work on the part of the higher clinical men. Not until the clinical laboratory adopts the methods of organization so admirably worked out in the laboratories of pure chemistry can its work be expected to become very effective. In laboratory work it does not do to have the apparatus as common property. It should be possible in a clinical laboratory as in a chemical laboratory to secure reagents and glass when they are needed. There should be a storeroom under lock and key, in care of a storekeeper, open at regular hours where stores can be drawn on by personal written requisition. There should be adequate janitor service. Each worker should have his independent working place, his own outfit, which he can lock up in his own cupboard, his specific routine, his particular problems. Where a certain amount of money is available, all this, with proper organization, can run as smoothly as clockwork. But without intelligent organization everything is agog. Everybody's property is nobody's. To secure a burette for yourself you must waste a co-worker's normal solution. The newcomer seeking a funnel holder for himself and finding one on your desk, runs the risk of spoiling some valuable quantitative estimation you are making. With the storeroom unlocked the phenylhydrazin is never in its place, the hardened filters disappear into one worker's locker, the glass beakers vanish, and graduated cylinders become a rarity. In the absence of a storekeeper and the requisition system, responsibility can seldom be fixed, the whereabouts of apparatus are enigmas, stores are exhausted and no new supply ordered, excess and waste go uncontrolled and experiments have to be conducted faultily if at all. Research is ever discouraging enough without the aggravated evil of an unorganized laboratory.

If we are to hope for fruitful investigation in our clinical laboratories we must see to it that those who work in them have proper facilities and conveniences, that order and system prevail, that proper encouragement and adequate supervision are provided. I make this digression here because I believe that the Munich laboratory under Friedrich Müller's direction is likely to become one of the best organized clinical laboratories in Germany. Interested in laboratory work as Müller is, a highly productive laboratory worker himself attracting ambitious young physicians from all lands to work with him, familiar with the methods and arrangements of German chemical laboratories and endowed with unusual executive ability and organizing power, it would seem as though it were to the clinical laboratory in Munich that we might look if anywhere in the near future for a proper development and a systematic organization.

The routine work of the medical clinic in Munich, even with a relatively large staff of older and younger assistants, makes heavy demands on the time and energies of the director. From 9 to 10 each morning (Saturday included) there is the medical clinic in the amphitheater; from 10 to 11 a percussion and auscultation course is given by Müller himself; from 11 to 12 he holds examinations and is occupied with ward visits. Between 12 and 1 o'clock the research workers in the laboratories are visited and advised. Consultation hours are from 2 to 4 p. m., and the hours from 4 to 6 are devoted to clinical and laboratory work. The evening is given over to medical reading, medical writing and the preparation of the lecture for the clinic the next morning.

Friedrich Müller was a pupil of Gerhardt's, was for several years the assistant of that great physician, and is thoroughly imbued with the clinical investigative spirit of his former master. How much he reverenced Gerhardt is evident from the necrologic notice he wrote of him in 1902; how much he has been influenced by him can easily be discerned by visiting his clinics and making his personal acquaintance His 9 o'clock clinic is largely attended by the *Praktikanden* in Munich, the seats of the clinical amphitheater are all occupied and often a number of men are compelled to stand And that this popularity is well deserved and does not depend on any catering to the lower motives, one can convince himself by regular attendance for a time There is nothing of the *grosses Thier* to be detected Müller's assistants attend the clinic to help him with experiments and demonstrations and to learn from what he says, but for no other reason No effort is made to mollify or amuse students, earnest, exact, honest clinical work and carefully prepared lectures are the only inducements held out Strict with himself, Müller is strict with his assistants, with nurses, and with students, the order, discipline and punctuality that result can scarcely fail to excite the sympathy and approval of the visiting onlooker

As I have said, the clinical material in Munich is not so abundant as might be desired There are no free beds in the American sense, many of the patients are paid for by the societies for invalid insurance The German arrangement known as the *Krankencasse* sends to private physicians great numbers of patients who should be hospital patients Besides, the medical profession as a whole in Munich has not yet learned to co operate with the university clinic Later, when practicing physicians feel more keenly than they do at present their duties toward the medical education of the coming generation of physicians, they will, when they in their private practice meet with particularly interesting cases which are suitable for demonstration, bring them to the director of the clinic for presentation to his class Individual physicians of the better sort have already made a beginning in this direction, and as soon as the Munich doctors realize how fairly they are treated under such circumstances and how helpful they can be in this way, the practice will doubtless grow

Müller's clinical lectures are models of clearness, terseness and force It is not always easy for the clinician, whose audience consists of clinical beginners on the one hand and more advanced students and postgraduate workers on the other, to so plan his address and the presentation of his case that all his hearers shall be interested and instructed Two or three students are always called to the side of the patien the Socratic method of teaching is often resorted to though not to the exclusion of the clinical lecture proper I was astonished at the simplicity of Müller's talks, and it occurred to me that perhaps in America we sometimes assume that our students know more than they do, that we sometimes overestimate their preparedness and assimilative power and in consequence fire over their heads Müller makes relatively few references to the bibliography of his subject, uses plain language, avoids unusual technical expressions, assumes a fair knowledge of anatomy, physiology and physiologic chemistry but does not presuppose extensive clinical knowledge or experience (beginners in clinical work can not possibly have them) The student is led from the anatomic and physiologic knowledge he has, through the anamnesis and the exact observation and examination of the patient, gradually up to the point where the diagnosis "makes itself" As a teacher the Munich professor has learned that very important lesson of beginning at the beginning, he does not, for example, inaugurate the clinical study of tabes with a minute description of pathologic changes in the spinal ganglion cell It is the "complaint" of the patient that is first listened to and this forms as it should always do, the starting point and, to a certain extent determines the course of the whole clinical investigation The complaint of the patient, it may be urged, is sometimes very misleading, true, but harm never results from taking it as the commencement of the clinical study, provided the patient is subsequently questioned in all directions and the whole body is examined thoroughly by all the methods at the clinician's disposal The beginner learns from observation in the clinic the great significance of the anamnesis in some cases and in others the fallacies to which it may lead Above all he comes to realize the importance in every case no matter what the anamnesis, of the thorough objective examination extended to all the organs and regions of the body

Müller demonstrates as much as possible, even when it is necessary to cut the clinical lecture short to do so, attention is called to the visible symptoms, the recognition of the physical signs is compelled The chemical tests of urine, feces and sputum are made at the time (not simply reported to the class) The bacteriologic and cytologic slides are under microscopes at the table where all may examine them When antitoxin is administered the serum is shown, when oxygen gas is advised in treatment the oxygen balloon is exhibited and its method of use illustrated I have even seen an ordinary hypodermic syringe passed around the class! Illuminated *x* ray photographs are shown, blood pressure readings are made, gross specimens from the autopsies are presented microscopic sections from diseased organs are projected on the screen In short, the method of object teaching or the principle of *Anschaulichkeit* is followed *ad maximum*

(*To be continued*)

Clinical Report

A CASE OF TETANUS TREATED SUCCESSFULLY WITH ANTITETANIC SERUM

T G ODELL, M D

AND

C C SNYDER, M D

SALT LAKE CITY

Patient—S B, aged 17, occupation, porter in wine cellar Family history negative He was admitted to the Holy Cross Hospital July 22, 1904, suffering from a well defined case of tetanus The following history was obtained after the patient had recovered sufficiently to talk

History—On July 4, while setting off a fire cracker the palm of the left hand was injured This did not cause much trouble until July 11, when he complained of some pain and stiffness in the muscles of the neck and back These symptoms were not severe, but had increased somewhat by July 15, when a physician was called and diagnosed the case as "muscular rheumatism," and ordered antirheumatic treatment which was continued until July 22 The patient was confined to bed

Examination—At this time our attention was called to the case, and on examination we found the following symptoms present Risus sardonicus very marked, tonic spasms every two minutes, opisthotonos exaggerated by the slightest noise or excitement, jaw locked to the extent that it would not admit a lead pencil between the teeth, temperature 104 F, pulse 120, constipation, no difficulty in swallowing and no pain

Treatment and Result—Patient was sent to the hospital when we had finished the examination, and at 8 p m 20 c c of anti tetanic serum were administered subcutaneously This dose was repeated at 12 o'clock midnight, and a similar dose given every eight hours until 220 c c had been used He was also given morphin sulphate, gr ¼ and atropin sulphate gr 1/100, hypodermically

No improvement was noticed for 36 hours, when the jaws relaxed sufficiently to admit an ordinary lead pencil between the teeth There was a very slight improvement in the spasms temperature 102, pulse 110 At this time chloral hydrate in 15 gr doses was given by mouth every four hours

July 25 there was decided improvement, the jaws relaxed three quarters of an inch, chloral and serum were discontinued and sodium bromid in 15 gr doses was given every four hours temperature 99, pulse 100

July 26, jaws relaxed one inch, patient was able to chew continued to improve, and was discharged from the hospital cured Aug 4 1904

This is the first reported case of tetanus that has recovered in this section of the country

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THE YEAR'S SUCCESS IN TETANUS PROPHYLAXIS

Beginning with the Iroquois Theater catastrophe, just at the close of last year, a series of life-destroying disasters has followed with what seems to be unparalleled frequence and immensity The fire on the *General Slocum*, in East River, preceded but a short time the sinking of a steamer ladened with Scandinavian emigrants bound for this country Railroad wreck has followed railroad wreck, culminating in the Colorado disaster, which caused a loss of life almost unequaled in the history of railroad accidents In the face of these horrors, many of which were the plain result of negligence on the part of public or private officials, there is some relief to be found in the analysis of the annual tetanus epidemic, by which form of child-sacrifice we make our annual blood-offering to commemorate the independence of these our United States Last year we were able to collect 415 reports of convulsion-racked victims of the toy pistol and its allies, this year we rejoice at a list of only 105 And being a rare chance, we hasten to credit at least a part of these 300 saved lives to the efforts of public officers, to credit up on the side of the sheet opposite to the debit column of the Iroquois and the *Slocum*

In the analysis of the conditions existing during the epidemic of this year, the facts that develop seem to indicate that the improvement of this year, as compared with last year, is not due to natural causes, such as decreased abundance and virulence of the bacilli, but to a number of factors all produced by humane effort This is fortunate, for it holds forth hope that by a continuance of this effort the ground gained may be held, and still more improvement made in the future Tetanus was less frequent this year for two reasons First, less injuries were produced on the Fourth than usual, second, the injuries that were received were bett [illegible] cared for Both of these conditions were the outc [illegible] solely of a better understanding by public and pro [illegible] sion of the really tremend s danger that lies in Fourth of July woun [illegible] this understandin [illegible] credit must be given to t [illegible] th lay and medical [illegible] When, a year ago, The [illegible] an the collection of statistics on this subject [illegible] little appreciation of the real enormity of [illegible] t We were as much surprised at the hug [illegible] aths and 3,983 injured—as were nearly a [illegible] for no complete collection of these injur [illegible] ver before been made The labor and this work has been most abundantly repaid, for the effect produced far exceeded anything we had hoped for A definite basis of facts and figures was given for the many public-spirited citizens, physicians, municipal officers and editors who for years have been making earnest efforts to check an annual calamity which they appreciated more than did their hearers, and these facts and figures were so gruesome that none could fail to be impressed As pointed out in our article, the fruit of this was a universal publicity given by every paper in those portions of the country where Fourth of July is celebrated by explosives, which resulted in the passage and enforcement of laws aimed at the use of dangerous means of celebration, in the abandonment of "home treatment" of these wounds for care by physicians, and on the part of the physicians in a more thorough prophylactic treatment of Fourth of July injuries

The lesson and the danger of the future is clear It remains to be seen if the falling off in mortality will result in a falling off in precautions, as so often follows all movements depending on a public action As the gain has been made largely through the agency of the daily press, so it must be maintained by the same means, and medical men can do much to aid in this If before the coming Fourth local societies will pass resolutions calling attention to the need of enforcement of the laws bearing on the use of explosives, and the dangers of Fourth of July wounds as a source of tetanus, the papers will readily sound the alarm Much can be done in the way of aiding newspapers in preparation of articles on this subject by furnishing statistics and information from proper medical sources We have noted much good from just these measures during the past year Every effort must be made to see that the agitation of this year is repeated next June, or we may lose what has been gained, for the blank cartridge and the cannon cracker will be put on the market ready for sale wherever the police will permit

Another lesson of this year's epidemic is furnished in the results of prophylactic treatment and curative treatment The latter is, in the case of Fourth of July wounds, almost unavailing, as shown by a mortality of over 95 per cent Prophylactic treatment, on the other hand, is proven by repeated experience to be absolutely successful We have yet to learn of a boy whose blank-cartridge wound was thoroughly cleaned out under anesthesia and followed by an injection of antitoxin, who developed tetanus or suffered from the vigor of the treatment As proper treatment is so perfectly efficient in preventing lock [illegible] n the case of the boys who do [illegible] ckjaw af [illegible] ourth the question may be [illegible] t proper [illegible] is to blame?" For it is cer- [illegible] here ha [illegible] lect somewhere We can [illegible] t in th [illegible] we hope the neglect will [illegible] to l [illegible] the part of the patient [illegible] sso [illegible] f do something in thi- [illegible] lp [illegible] publicity through its [illegible] juries and their results, may it not start proper legislation aimed at the root of the evil—the manufacture and sale of dangerous explosives which are useless except for the celebration of the Fourth? Not until this is done will the situation be safe, and the initiation of such action would very properly begin with the American Medical Association.

DIABETIC NEURITIS.

The nervous system is peculiarly susceptible to the action of various chemical agents, whether introduced from without or generated within the body as a result of metabolic or infective processes. That in some instances the central, and in other instances the peripheral division, and in still other instances both divisions of the nervous system, should suffer under such circumstances, must be due to differences in chemical affinity beyond present means of determination. No doubt, isolated symptoms of neuritis have for a long time been observed in cases of diabetes, but it is, of course, only since knowledge on the subject of the former has become well defined that an understanding of the connection between the two has been possible.

The clinical phenomena to which peripheral neuritis gives rise are at times so much like those of locomotor ataxia that it is not surprising that the symptoms were for a long time attributed to disease of the spinal cord, and in this connection the question may be fairly asked whether there is not after all some relation pathologically between the gray matter of the anterior horns of the spinal cord and the motor nerves on the one hand and the sensory nerves and the posterior columns of the cord on the other hand.

In a recent communication, Dr. F. W. Pavy,[1] who has devoted much attention to the study of diabetes, and who was one of the first to describe the symptoms of neuritis as a complication of that disorder, discusses some of the varied phenomena of diabetic neuritis. He points out that cramp may occur in the absence of signs of neuritis, being especially marked when the amount of sugar in the urine is large, and he attributes the phenomenon to the direct effect of the sugar passing through the system on the muscular substance. The characteristic symptom of diabetic neuritis is a want of muscular co-ordination, without actual paresis. The ataxia is, as a rule, not so marked as under other conditions. At first the gait is unsteady and insecure, and somewhat like that of an intoxicated person, while later the patient may be unable to get along without the aid of a stick or the arm of a friend. The ataxic diabetic patient can maintain his equilibrium when standing with his feet together and his eyes shut much better than the tabetic. The ataxia may be unattended with sensory phenomena, while conversely these may be marked when the ataxia is slight.

Fibrillary contractions unattended with any sensation are sometimes visible over some muscles. They appear as wavy oscillations or twitchings beneath the skin. Hyperesthesia localized to different parts is frequently present. At other times there may be numbness, tingling, a sensation of pins and needles, and other paresthesiæ. Sometimes the soles of the feet are tender, so that walking is painful, or the patient may not feel the ground properly, or he may seem to be walking on pebbles or on pointed projections. Aching, deep-seated pains in the extremities, sometimes conjoined with lightning-pains, may be present, and often there is complaint of tenderness of the flesh and bones. The pain is usually worse at night than by day, and the patient may find difficulty in placing the legs in a sufficiently comfortable position to permit of sleep. Occasionally girdle-pain is observed. The knee-jerks are often abolished in cases of long standing, although they may later be restored with reduction in the amount of sugar in the urine. Should the vasomotor nerves be involved there may be local flushings and pallor of an abnormal nature, and the hands or feet may become hot and florid or blanched and cold. Trophic disorders also may result, for example, gangrene of the toes or perforating ulcer of the foot, cataract, loosening of the teeth, xanthoma, boils, carbuncles.

Diabetic neuritis is most commonly symmetrical in distribution, and the upper extremities are more frequently involved than the lower. All four extremities may, however, be affected together, or exceptionally the upper alone. Involvement of the right lower extremity, the right side of the body and the right upper extremity has been observed. Sometimes the disturbance is confined to a single nerve, such as the sciatic or the brachial. In some cases symptoms of angina pectoris have been noted, but these have yielded to treatment of the diabetes. Involvement of the third nerve, with ptosis and external strabismus, has been reported.

In the opinion of Dr. Pavy, the development of the neuritis complicating diabetes is attributable to the presence of sugar in the blood, and the treatment consists in measures directed to a reduction of the amount of sugar, especially careful dieting. In addition potassium iodid five grains, with ammonium bromid ten grains, has been administered thrice daily with benefit. Should these fail to bring about the desired result the continuous galvanic current may be employed, and when there is severe superficial pain a liniment containing aconite may be applied with advantage.

A NEW FORM OF THROAT INFECTION DUE TO AN ORGANISM OF THE OIDIUM GROUP.

The amount of bacteriologic work which has been done in the last few years on the various forms of angina is so great that one would expect that our knowledge of the different forms of throat infection would be fairly complete. Nevertheless, new varieties of throat infection have been described, notably the form due to the spirillum and fusiform bacillus of Vincent, and the occasional cases of tetragenus angina. That angina could be due to the group of organisms which cause ordinary thrush has hardly been suspected, though any bacteriologist who has worked with throat cultures can not have failed to note the relatively frequent occurrence of oidia and the French observers have reported a few cases in which this group of organisms played the part of secondary invaders.

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[1] Lancet, July 2, 9, 1904.

In a recent article Oliver[1] has described a new form of throat infection, presenting characteristic clinical and bacteriologic findings, due to an infection with an organism of the oidium group. On the clinical side the disease presents a variety of pictures as it varies both in its course and in its severity. In children under twelve the disease usually assumes an acute form, while in adults the course is generally chronic, one of Oliver's cases having lasted for fourteen years. The symptoms first noted are those generally accompanying an acute infection, coryza, pain about the eyes, and aching of the back and limbs. These symptoms are accompanied with evidences of the local infection in the form of dry, paroxysmal cough and difficulty and pain in swallowing. The first objective signs are an intense hyperemia of the tonsils, uvula and pharyngeal wall, followed by great swelling of the tonsils and uvula, the cervical glands become enlarged and tender, and a thin, grayish-white, slime-like membrane appears on the tonsils. The temperature may remain normal or rise as high as 102 or 103 F. Subsequently a V-shaped membrane forms on the posterior pharyngeal wall, and this with the membrane over the tonsils becomes thickened, adherent, elevated, and of a pearl-gray color. About this time gray, elevated, hard, adherent patches appear on the tongue usually near the center, but occasionally all over. These are of pinhead size, but gradually increase until they may reach the size of a silver quarter. The patches are irregular, elevated, firm, furry to the touch, and can only be removed with difficulty and pain. The disease having reached its acme now tends toward healing the membrane disappears, the glands in the neck go down, and the general condition improves. In most instances, however, the tonsils and particularly the tongue are marked by ulcerations. In the tonsils these are generally situated at the top of the gland in the sulci, and are deep and punched-out in appearance. On the tongue the ulcers are irregular and quite deep, reaching into the submucosa. It is these ulcerations of the tongue which may remain for months and which characterize the chronic cases.

The bacteriologic examination of these cases shows the presence in cover-slips of numerous round or ovoid bodies from 6 to 8 micromillimeters in diameter, with double contour, and staining lightly except for a single chromatin granule at the thicker end. Attached to the oval body at the thicker end is a thread of varying length, which may or may not be jointed. The organism stains by Gram's method and all the basic anilin dyes. It is grown with difficulty at first, but when once obtained in pure culture can easily be reinoculated. It is pathogenic to rabbits, and in these animals the clinical picture of the disease can be reproduced quite closely. Of singular interest is the fact that a physician who worked at the laboratory bench where Oliver had autopsied his rabbits contracted the disease. While this form of throat infection has so far been described only in San Francisco, there is no reason to believe that it is limited to that locality, and it seems probable that like other new diseases as it is more carefully looked for it will be found to be more widely distributed.

BACKWARD CHILDREN AND EDUCATIONAL TECHNIC

An interesting experiment in educational methods which is attracting wide attention, is deserving of the special consideration of physicians. Very few are now persuaded that all men are born equal in the sense that intellectual qualities have been doled out with unfailing regularity. What certain pupils are able to accomplish with comparative ease, others of the same age and of the same social stratum may find very difficult. For these latter pupils attendance at school becomes a depressing routine, a constant source of worry and nervous unrest, and prone to be rendered still more unpleasant by intellectual tension out of school hours and the discouragement of the feeling of incapacity. How much of harm the attempt to cast all the pupils of each class in one mold has done, only those can realize who have seen delicate children run down every year under the strain of their school work.

The superintendent of the schools of Batavia, N. Y. found this problem of the weaker and slower pupils being compelled to compete with the physically stronger and intellectually more rapid workers crowding on him for solution. As described in a recent number of the New York *Independent*, there came to him an inspiration. "Let us," said he to the governing board, "put an end to this killing of children." His method was simple and rational enough. He suggested an extra teacher for every room, whose duty would be not to hear lessons, but to help those pupils who were falling behind in the class. Needless to say, this sort of help requires special tact and broad sympathy with children's minds, as well as a clear idea of the way in which pupils view things so as to recognize the source of their difficulties. The experiment was tried first in a single room, but the result was so strikingly beneficial both as regards the pupils themselves and the feelings of satisfaction on the part of the teachers, that what has since come to be called the "Batavian experiment" is now finding its way into many of the higher schools.

The most interesting feature of this experiment is that on the health of the children. While there was no doubt from the very beginning that it would be of service for the general scholarship of the schools, the hygienic feature was not expected to be quite so prominent

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[1] California State Journal of Medicine vol ii No 8.

One mother, rejoicing over her boy restored to health and intellectual vigor, after she had seen him depressed and discouraged during the preceding year, declared the new experiment to be "a new phase of Christianity" It is especially satisfying to find that the success of the experiment has been pleasing to the powers that be in the school The president of the school board says The method of meeting our problem is not only a revelation, it is a revolution "

There are many physicians especially, who feel that too much is demanded of children in school at the present time There are many who are sure that the game is not worth the candle, since so many of the modern fads in education bear little relation to the real mental development or to success in life It would indeed be a consolation to find some way out of the anxious problem which physicians have had to meet in this matter of the education of more delicate children The fact that as many as six times the number of pupils remain to graduate at the high school in Batavia is apt to prove a better argument, however, for educators than any physical improvement may with the new system Let us hope that it will receive the recognition that it apparently deserves In any case it must be remembered that a child's health is much more important for its success in after life than any amount of education, however apparently successful our wonderful methods of educational development may be presumed to be

THE DEPARTURE OF DR. OSLER

While long expected, the announcement[1] of the intended departure of Dr William Osler to assume the regius professorship of medicine in Oxford University, conveys a sense of loss to the entire medical profession of the Western Hemisphere The change from the Johns Hopkins University, where he has been the shining light for so many years, to the famous old English university, is a change that does not alter Dr Osler's standing among the scientists of the world, because of the fact that he is almost as well known across the water as he is on this side By birth and education he was a Canadian, and in Canada was the commencement of his fame as a teacher and practitioner He came to the United States in 1884 to the University of Pennsylvania, and in 1889 he went to Johns Hopkins University, and has since been actively engaged in the affairs of that institution, for the past few years being its guiding spirit His extraordinary capacity for hard work, his keen insight into affairs, his marked success as a teacher of medical students, and his wonderful sympathy as a man among men, have centered about him a press of varied duties such as few men could successfully manage and fewer still carry for so long As a teacher, he has been most emphatic in upholding the principle that the art of medicine should be based on the most exact scientific knowledge obtainable In following out this principle in his own practice, his thoroughness has won for him the position which he holds—one of the foremost men in medicine to-day In every one of his varied duties he has been faithful

While typically representing the highest ideals in scientific medicine, he found time and inclination to lend a helping hand in all work that tended to uplift his profession He is an enthusiastic worker in the movement for the organization of the profession, and, burdened as he is by his other work, he does not hesitate to accept the position and perform the duties as councilor in his state when the new plan of organization was adopted by the Maryland Society In this he has set an example for those who feel that they are too much occupied with scientific work to meet on the common level and assist in the movement for the improvement of the profession This illustration of his devotion to the interests of his confreres shows that his actions were consistent with his high ideals as to the physician's duty

As one of the profession of Maryland, his loss will be especially felt His influence and example, his active participation in its activities, and his generous contributions to all its enterprises, have promoted immensely its morale His leadership has been felt and acknowledged by all Few men so well combine the qualities of leadership, tact, unselfishness, active interest in everything professional, and ability so conspicuous as to be recognized by all without jealousy

For some years Dr Osler has tried to arrange his work so as to avoid some of the tremendous pressure under which he labors His teaching, his hospital work his constantly increasing consulting practice, his participation in other professional affairs of local and national importance, have left him little time for his literary work The Oxford position is more of an academic one, involving less time-taking routine, and will, therefore, leave him free for the literary work which he is anxious to accomplish He undoubtedly hopes to utilize the immense amount of valuable clinical material which he has accumulated The ideal life in Oxford University is just suited to such work We congratulate both Dr Osler and Oxford University especially the latter

THE DOCTOR IN POLITICS

Every one should take an interest in politics, because it is one's duty as a citizen But every physician should be interested much more than the ordinary citizen, for his relations to the state are more important The people depend on him to suggest measures and methods for the sanitary and health legislation and for the care of the physically weak Evidently this view is held by a sufficient number of physicians in Texas to influence one of the parties, and to make it believe that it is to its interest to side with the profession The fourth plank in the Texas Republican platform is as follows

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[1] THE JOURNAL news columns, Aug 20 1904

> We believe that the home for the old soldiers, that the asylums for the orphans, that our penitentiaries should be presided over by competent, honest and faithful servants, that our eleemosynary institutions should be sanitary, and the insane removed from our jails to proper quarters In trials for insanity there should be neither acquittal nor conviction without the interposition of a medical board

Would that the profession were influential enough to have such a plank in the platform of both parties in every state in the Union!

AMPUTATION STUMPS AND SATISFACTORY PROTHESIS

There is probably no class of surgical patients to whom the details of treatment have greater subsequent import than those requiring amputation of lower extremities, because the application of a satisfactory artificial leg depends directly on the character of the stump As this can be so greatly influenced by the operative and the almost equally important after-treatment, it should be an obligation for every surgeon to be exactly informed of the best methods F T Murphy,[1] in a very thorough study of this subject, from the viewpoints of the patient, the prothesist and the surgeon, has, by demonstrating the fallacies of many accepted procedures, and clearly indicating the surest means to the best functional results, forcibly emphasized the essentials of treatment, which, if closely followed, will reduce to a minimum the distress of an enormous number of unfortunates

ERYTHEMA CONTAGIOSUM

Under the name of erythema contagiosum, Escherich[2] has recently described cases of a disease which, in many ways, resemble the eruptive fevers of childhood The name was first given to the disease by Stricker of Giessen but Escherich states that he has observed it for a good many years, first at Graz, and later at Vienna It would appear that the disease was at first confounded with German measles The disease has an incubation period of from six to fourteen days, and appears in children, who are subjectively well, in the form of an intense redness and turgescence of the cheeks, which is often quite sharply limited by the nasolabial line, thus resembling erysipelas Less frequently the eruption on the face is in the form of flecks or gyrate patches In most cases there are also present on the forehead, the region of the ears, and on the extremities, scattered patches of bluish-red erythema which sometimes coalesce The eruption lasts from six to eight days, and then gradually fades, first on the face, then on the extremities There is no desquamation, and unpleasant sequelæ are not observed From time to time there have been described in this country epidemics of atypical eruptive fevers, usually considered to be atypical German measles It seems likely that the disease which Escherich describes may exist in this country, and it behooves the general practitioner, who is most likely to meet with such cases, to be on the lookout for it

UNPRECEDENTED MEDICAL ASPECTS OF THE WAR NOW IN PROGRESS

Warfare has lost its personal character, and is now merely wholesale butchery This fact is impressively demonstrated by a letter from Dr Paul Jacoby[1] of Orel, Russia, whose experience at the seat of war has shown that the battles and mine explosions affect men like great cosmic phenomena, in which the personal element is entirely lacking Danger, death itself, present themselves under new and strange forms, altogether different from the ideas of war to which we have been accustomed since the days when knighthood was in flower Our psychology has not adapted itself yet to the new aspect of warfare A cruiser which in less than two minutes sinks with 800 men on board, a skirmish in which 104 out of 107 of the horses are killed, an assault in which every assailant drops to the very last man, an assault over a surface known to be undermined by fifteen hundred mines, these things affect one like a tremendous earthquake or volcanic eruption Every physician knows that catastrophes of this kind breed psychoses, and the nervous condition of those who escaped from such catastrophes as the blowing up of the *Variag*, the *Petropavlovsk* and the *Hatsuse*, is similar to that of the survivors of some great cosmic upheaval Nervous disturbances and psycho-physical troubles should be treated at once, and on the spot, in conditions of absolute repose Some of the survivors of the battles and explosions at the seat of war were hurried away from the spot and sent home, the interminable railroad journey rendering their curable psychosis probably incurable insanity Jacoby has urged on the Russian Red Cross, and his suggestions have recently been put in practice, that certain barracks and tents should be set apart for such patients, to isolate them and render possible the restoration of their nervous balance The conditions of warfare all predispose to psychoses, under the most favorable surroundings, and the new forms of death—forms to which the mind is not accustomed—and the psychologic conditions which they create, must certainly have an influence on the psychophysical condition and on the pathogenesis of nervous morbidity among troops in active warfare They may perhaps, originate new morbid forms akin to the traumatic and hysteric neuroses of industrial origin In the campaign in Manchuria all these causes are cooperating with an unprecedented intensity, and the physicians at the seat of war have been so preoccupied with their surgical duties that these victims of the war have been neglected or sent home, thirty or forty days of railroad traveling being superadded to the other factors of their psychosis Jacoby refers the brutal acts and perversions of men in camp life to unrecognized psychoses generated by their environment The authorities and public opinion, however, are not always able to distinguish between a psychosis and a crime He refers to the recent suicide of General MacDonald as an instance in point The two armies now fighting in Manchuria have the sad privilege of inaugurating these new psychologic and psychopathic conditions of modern warfare with its character of industrial butchery by perfected processes No country in the world is prepared to face the exigencies of modern warfare perfectly, but fortunately the psychopathic victims of civilized war can be readily treated anywhere, even on the very battle-field Jacoby refers to his own experience at the Orel Asylum, where every year the summer months are spent by the inmates in temporary wooden shelters or tents while the buildings are being renovated The organization of a psychiatric department in the Red Cross service for troops during a campaign is a pressing necessity It is particularly needed when the campaign is remote from the centers of civilization, and, above all, in the tropics

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[1] Boston Med and Surg Jour, July 14, 1904

[2] Münchener med Wochenschrift, No 24, 1904

[1] Progrès Médical XXX, No 33 Aug 13, 1904

Medical News.

ARKANSAS

Physician Pleading Self-Defense is Acquitted—Dr William L Parchman, Van Buren, charged with killing Charles Tolson, was found not guilty His plea was that Tolson made a movement as though he were about to draw a revolver

Unlicensed Itinerant Fined—An advertising itinerant specialist who attempted to ply his trade in Newport, was fined $25 and costs for failure to secure a county license The proceedings were instituted by the Jackson County Medical Society

State Board Reorganizes.—On July 12 the State Board of Medical Examiners met at Little Rock, and reorganized, electing Dr Adam Guthrie, Prescott, president Dr Ben L. Harrison Jonesboro, was appointed a member of the board vice Dr Charles R. Shinault, Little Rock, removed from first congressional district

State Society Election—At the annual meeting of the Arkansas Medical Society the following officers were elected Dr Joseph P Runyan, president, Drs John L Butler, Sheridan, Herbert H Canfield Siloam Springs, and Adolphus G Clyne, Bethel, vice presidents, Dr Richard C Thompson, Pine Bluff, treasurer, and Dr Charles C Stephenson, Little Rock secretary Little Rock was selected as the meeting place for 1905

Negro Medical Society—At the session of the Negro State Medical Association at Little Rock, Dr Hayward W Suggs Little Rock, was elected president, Dr Claude M Wade, Hot Springs, vice president, Dr Meaddoughs, Little Rock, secretary, and Dr George A. Flippin Pine Bluff, treasurer The association adopted resolutions that the colored race should have representatives on the State Board of Medical Examiners and State Board of Health

Lightle Not Dead.—Dr Richard G Lightle, Searcy, an account of whose tragic death by fire appeared in The Journal of June 4, and whose widow received $21,000 life insurance, has been found alive in Georgia and is to be extradited, and returned to Arkansas to be tried on the charge of attempting to defraud insurance companies Mrs Lightle, on being convinced that her husband was not dead, voluntarily returned the life insurance money to the five companies interested

CALIFORNIA.

Cornerstone Laid.—The cornerstone of the new College of Physicians and Surgeons of Los Angeles was laid with formal ceremonies August 13

New Medical Ward.—Through the munificence of a citizen of Pasadena, a medical ward has been provided for the Pasadena Hospital, which will cost about $15,000 The gift was conditional on the preservation of the incognito of the donor

Becomes a Part of University—At a meeting of the Board of Regents of the University of California in San Francisco, August 9 the intermediary department of medicine was taken over by the regents and will be reorganized into a regular department

Accident.—Dr Mary B Ritter, Berkeley, suffered fracture of the clavicle and two ribs in a runaway accident near New Almaden, and has intimated her intention of resigning the lectureship of hygiene in the University of California, on account of her injuries

Welch Delivers Lane Lectures—Dr William H Welch of Johns Hopkins University delivered the Lane course of ten lectures on "Infection and Immunity" before the faculty and students of Cooper Medical College and invited guests, in the five days beginning August 15

College to Have Library—Cooper Medical College, San Francisco, is now ready to erect the medical library building provided for in the will of Mrs Pauline C Lane, and the authorities of the college have petitioned the Superior Court for permission to sell the property bequeathed by her for this purpose

Dismissed and Convicted—The charges of practicing medicine without procuring a state license preferred by the State Board of Medical Examiners against Drs James Gerow, L A Cloutier and G W Winckfield of Oakland County, were dismissed, August 24, for lack of sufficient evidence to convict —— "Dr" W J Sylvester, San Francisco, convicted of practicing medicine without a license, was fined $100

ILLINOIS

The anti expectoration ordinance, which became effective in Joliet, August 15, prohibits spitting on sidewalks and in public places

Leprosy at Peru—A case of leprosy has been discovered in Peru The patient is a furnaceman at the works of the Illinois Zinc Company, is married, and has seven children The origin of the disease was not discovered

Smallpox.—Belleville has 9 houses quarantined and 3 patients at the County Isolation Hospital ——East St Louis, is reported to have 300 to 400 cases, 35 of the 38 patients at the isolation hospitals are from East St Louis ——Smallpox exists in a number of houses near the Illinois Central Station in Centralia and the railway company has asked the State Board of Health to enforce quarantine ——Peru has 15 cases and La Salle one case

Chicago

Personal.—Dr Alfred Schalek, after a long illness, has recovered and resumed practice ——Dr Thomas J Jackson sailed for Europe, September 1 ——Dr Ada A Latham was recently elected secretary of the American Microscopical Society —— Dr and Mrs Jacob Frank sailed from Hamburg for New York, August 28

Health Department Rejoices.—The Bulletin of the Health Department for the week ended August 27 is a song of rejoicing because the August death rate is phenomenally low, because the low mortality among infants and children continues, and because of the reduction in the cases of typhoid fever and acute intestinal diseases

Mortality of the Week.—The total deaths last week numbered 472, equivalent to an annual death rate of 12 76 per 1,000 or more than 16 per cent below that of the corresponding week of 1903 Acute intestinal diseases caused 102 deaths, consumption, 52, violence, 46, heart diseases, 30 pneumonia, 32, and Bright's disease 26

MARYLAND

Urges Vaccination—The State Board of Health is sending letters to the boards of school commissioners urging thorough vaccination of all school children before the term begins

Personal—Dr Charles G W Macgill, Catonsville, is visiting Richmond, Va.——Dr J R. Cullen, Catonsville, is visiting Camden, Del ——Dr Charles Owens, Sunnybrook, has gone to Port Norris, N J, to practice ——Dr Albert J Bossyns, of Mt Washington, has gone to the Pacific Coast, via St Louis

Baltimore

Personal—Dr Philip E Craig is seriously ill with typhoid fever

May Succeed Osler—The general belief in the profession in Baltimore is that Dr W S Thayer will succeed Dr William Osler, at the Johns Hopkins Medical School

Sings for Charity—Dr B Merrill Hopkinson has sent $59 35 for the Children's Fresh Air Fund, the net proceeds of a song recital given by him at Prout's Neck, Maine, where he is spending the summer

Seeks Mandamus.—Dr Campbell F Flautt has petitioned the Court of Common Pleas for a writ of mandamus compelling the Board of Medical Examiners of Maryland to issue him a permit to be registered as a physician An order was granted by the court, returnable September 10 Dr Flautt claims to have been a practitioner prior to Jan 1, 1898, the date of the law, and to be a regular graduate

MICHIGAN

Smallpox—It is reported that smallpox is prevalent in and around East Nelson and Pierson

Personal.—Dr William E Parker, Dowagiac is seriously ill with septicemia, due to an operation wound——Dr Myrtle E Lockwood, Battle Creek, has returned from Japan——Dr Raymond D Sleight, Ann Arbor, assistant in ophthalmology and otology in the University of Michigan, has resigned, and will practice in Battle Creek

Post-Graduate Instruction in Detroit—The Detroit Post Graduate School of Medicine has been incorporated with a capital stock of $5,000, by Drs Walter R Parker, Frederick W Robbins, Charles G Jennings, David Inglis, Burt R. Shurly, Charles D Aaron, Frank B Walker, Andrew P Biddle, Preston M Hickey, and Benjamin R Schenck The first session opened in the Detroit Clinical Laboratory building, September 1

Itinerant Wins First Suit—In the case of Max Jay Kraus, charged with practicing medicine in Michigan without being registered in the state, the jury returned a verdict of not guilty The defendant is one of an itinerant medicine company known as the Hot Springs Doctors," which has been taking $300 or more a day from the ignorant of Traverse City, and the prosecution was at the instance of the local medical association

July Mortality of Michigan—The total number of deaths for July was 2,510, or 65 more than the number for June, and 143 less than the number recorded for July, 1903 There were 520 deaths, or 20 7 per cent, of infants under 1 year, 143 deaths of children, aged 1 to 4 years, and 720 deaths of persons aged 65 years and over Important causes of death were as follows Influenza, 4, measles, 8, scarlet fever and whooping cough, 10 each, puerperal septicemia, 19, diphtheria, 24, typhoid fever, 28, meningitis, 36 pneumonia, 69, cancer, 156, diarrhea, enteritis, under 2 years, 206, tuberculosis, 211, and accidents and violence, 226 There were only 5 deaths reported from tetanus, a number much smaller than that for the corresponding month of 1903 No cause for tetanus was assigned, except in one instance, when a toy pistol was stated to have inflicted the wound that caused death There were 4 deaths from smallpox

MISSOURI

New Police Surgeons—Dr Herbert A Longan, Kansas City, has been recommissioned police surgeon, and has appointed Drs H. M LaRue, E J Morrow, and W L McKittrick as assistants

Will Now Distrust Burglars—Dr William Frye, Kansas City, who did not trust banks and kept his money with him, was visited by burglars who stole $6,500, and in addition attempted to asphyxiate the family by gas

St Louis Deaths.—For the week ended August 27, 193 deaths were reported to the health department, of which 21 were due to consumption, 26 to diseases of the digestive apparatus, 19 to heart disease and 17 to violence

Personal—Dr Frank S Vernon, Charleston, has been appointed assistant superintendent of the Farmington Hospital ——Dr W W Graves has returned to St Louis after an absence of four years in Europe——Dr Thomas J Baskett, Mexico, has been appointed coroner of Audrain County, vice Dr Charles T Varnon, deceased

NEW YORK.

Personal—Dr Grover Wende, Buffalo, has sailed for Berlin to attend the International Dermatological Congress——Dr Frederick C Peterson, Watertown, has moved to Syracuse

Regents Win—Dr Stanley Darlington, Buffalo, who was tried for practicing without a license and brought suit to compel the State Board of Regents to issue him a certificate, has lost again Darlington's attorney claimed the regents were prejudiced against him, but as it was shown that the regents offered to give him a hearing if he would deny under oath, their charges that he cheated at an examination and practiced without a license, the court said he should have taken their offer, and so denied him a writ of mandamus

State Hospital Report—The thirty third annual report of the Buffalo State Hospital has been issued The vacancy on the board of visitation, made vacant by the death of Dr Lothrop, has been filled by Dr William C Krauss While the hospital is fortunate to have been relieved of 200 of its patients by transfer to the Gowanda State Hospital, the reduction in number seems to have been temporary only The number of patients in the hospital is 1,822, during the year 429 were admitted, of these 94 were discharged recovered, 89 improved, 229 unimproved, and 104 died The percentage of recoveries to total number of admissions was 21 91

New York City

Contagious Diseases—There was reported to the sanitary bureau for the week ended August 20, 420 cases of tuberculosis, with 130 deaths, 224 cases of diphtheria, with 26 deaths, 120 cases of typhoid fever, with 20 deaths, 73 cases of measles, with 7 deaths, 54 cases of scarlet fever, with 5 deaths, and 24 deaths from cerebrospinal meningitis

Personal.—Dr Otto C Thum and party had a narrow escape from drowning on August 25 They had drifted out to sea in an unmanageable catboat When reached by lifesavers they were nearly exhausted from efforts at bailing, and had despaired of help——Dr George D Hamlen sailed on the *New York*, for Europe, August 27——Dr and Mrs Wendell C Phillips, who have spent the past month traveling, have returned to their summer home, Pawling

New Government Laboratory—The Department of Agriculture will establish a chemical laboratory for the examination of imported food products in the appraiser's stores building of the Treasury Department, which will be opened September 5 This is the first of a number of port laboratories to be established in order to prevent the introduction of impure food products into the United States Eighty per cent of the food importations arrive at New York, and samples from each cargo hereafter will be taken direct from the appraiser to the laboratory

Seek to Revoke Sydenham Charter—Charges have been made to the State Board of Charities against the trustees and managers of the Sydenham Post Graduate Course and Hospital, charging that the physicians who joined the staff had to pay a certain amount down and a stated sum monthly It is also charged that this institution is conducted in an unsanitary unlawful, negligent and improper manner The officers of the institution declare that the charges are utterly groundless and are made by men who have been discharged

Fresh Air Medicine—The New York Association for Improving the Condition of the Poor has given over 3,100 mothers and children excursions for ten days, and nearly 17,000 day excursions this summer This work has greatly aided in keeping down the summer death rate among the poor The resources of St John's Guild have been severely taxed this summer, and the reason is given that never before has there been so much severe sickness among the poor children and babies The institution maintains a floating and a seaside hospital, and since its first trip, July 5, it has cared for more than 25,000 sick children

Death and Mortality Rate of Diphtheria—In the Boroughs of Manhattan and the Bronx, from 1893 to 1903, inclusive, the following tables, recently published by the department of health, are interesting

Period	Cases	Deaths	Mortality per cent.
1893	7,021	2,558	36 4
1894	9,641	2,870	29 7
1895	10,353	1,976	19 1
1896	11,399	1,768	15 4
1897	10,896	1,590	14 6
1898	7,593	923	12 2
1899	8,240	1,087	13 1
1900	8,364	1,121	13 4
1901	7,726	1,227	15 9
1902	10,429	1,142	10 9
1903	11,662	1 302	11 2

The use of diphtheria antitoxin was begun by the department of health, Jan 1, 1895, but owing to bitter opposition it did not come wholly into general use until 1898 Since Jan 1, 1895, immunizing injections of antitoxin have been administered to over 13,000 individuals, and of these 40, or 3 per cent, contracted diphtheria of a mild type, with one fatal termination Since 1895 the department of health has gathered records of 15,702 cases which had been injected with antitoxin, excluding the moribund cases, 1,138 died, giving a case mortality of only 7 5 per cent Cases treated early in the disease gave almost no mortality

OHIO

Hospital Incorporated—The June M Case Memorial Hospital, the site and building for which was purchased for $10,000, bequeathed by the late Mrs Case, has been incorporated

Accidents and Operations—Dr Nathan S Hatfield, Bowling Green, recently underwent a serious operation in a Chicago hospital ——Dr William H Buechner, Youngstown, who was recently operated on for an infected operation wound, is making a good recovery ——Dr James W Graham, West Williamsfield, tripped while alighting from a train, was run over and crushed his left foot, necessitating the amputation of the toes ——Dr Cary I Legge, Newark, fell, while making a professional call, broke a rib and sustained severe contusions

Continued Prevalence of Rabies in Gallia County—Despite the warm weather there seems to be no marked subsidence in the endemic rabies among the dogs, cattle and swine in and around Gallia County and the adjacent country A report recently made to the pathologic laboratory of the Ohio Hospital for Epileptics indicated that some fifteen or twenty dogs had within the last three months, developed rabies in a rural neighborhood less than a mile square Fortunately not a person was bitten by these dogs, which were promptly dispatched Because of the extensive prevalence of the disease, grave fears are entertained for the safety of the public when, with the advent of cool weather, even more active manifestations are to be looked for

Personal—Dr Ephraim J McCollum, the oldest practitioner of Tiffin, was recently entertained by the Seneca County medical Society, and presented with a silver water pitcher ——Dr Franklin H Lamb, Glendale has been made lecturer on physiology in the Miami Medical College, Cincinnati.——Dr McKendrie C Smith, health officer of Columbus, has received the additional appointment of sanitary expert, with a salary of $1 200, and the duty of preventing water pollution ——Dr George R Love, first assistant physician at the Toledo State Hospital, has resigned and will take up general practice in Toledo ——Dr Charles C Walker Cleveland, sailed, August 18, from San Francisco, for his mission post at Wakawn, Siam ——Dr Thomas J Arundel, Youngstown sailed for Europe August 20 ——Dr H. Stow Garlick has been appointed surgeon to Battery B, Ohio N G, Cincinnati, vice Dr William H. Rothert resigned.——Dr Robert C Rind, Springfield, has been appointed chief surgeon of the Springfield Troy and Piqua Railway ——Dr Isaac D Jones, Walnut Hills, Cincinnati, returned from Europe, August 22

GENERAL

Dr Goodhue Improving—Dr E S Goodhue, Holualoa, Hawaii, who was seriously injured in a runaway while making calls July 16, is slowly improving One rib and the left shoulder were broken, besides other injuries

Dr Millican Goes to St Louis.—Dr Kenneth W Millican has resigned the position of associate editor of the *New York Medical Journal* which he has held since 1898 in order to assume the editorship of the *St Louis Medical Review*, the duties of which he takes up shortly

The Union of Old German Students in America will entertain the German scientists who attend the St Louis Congress of Arts and Sciences, at a "Kommers" in Arion Hall, October 8 Most of the eminent guests are medical men Further particulars may be had of Dr A Ripperger, secretary, 50 West 130th Street New York City

American Roentgen Ray Society—The fifth annual meeting will be held at St Louis September 9, 10, 12 and 13 The sessions will be held in the morning only, at the Louisiana Building, 911 N Vandeventer Ave The afternoons, evenings and the intervening Sunday will be left open for general sight seeing Hotel headquarters of the society will be at the Grand Avenue Apartments, Grand Avenue and Morgan Street An exhibit of the *x* ray apparatus will be a feature of the meeting

Ohio Valley Medical Association—The sixth annual meeting will be held at Evansville Ind., November 9 and 10 This association has for its boundary Kentucky, Indiana, Illinois and Ohio and has a membership of 300 The association stands for a higher standard in medical education, for a decrease in the number of medical schools to our needs, for a uniformity in the requirements to practice medicine in the various states for a reciprocity between the states and for a closer bond of friendship between the members of the profession All physicians who are in good standing in their county and state societies and who are thus agreed will be most cordially welcomed at the meeting Dr A J Lieber, Henderson Ky, is secretary of the association.

FOREIGN

Eiselsberg Declines Invitation to Berlin Chair—The chair of surgery left vacant by König's retirement after the completion of the model surgical clinic under his supervision, was offered to Professor von Eiselsberg of Vienna, with a tempting salary He does not care to leave Vienna, and has declined the offer

Completion of the Great Policlinico at Rome—Millions have been spent during the last few years at Rome in the construction of a great modern hospital, to be a model in every respect Medical visitors to Rome have all commented on the vast scale and fine appointments of this new institution, with its spacious surroundings, apart from the heart of the city It was formally inaugurated, August 4, and 500 patients from the other hospitals were transferred to the completed wards of the great Policlinico Umberto I," as it is to be called Three of the pavilions are devoted to surgery, seven to general medicine, and one to contagious diseases Each pavilion has a capacity of 80 beds The pavilions are separated by very wide and long galleries The appliances for heating lighting ventilation, etc, are according to the latest and most approved systems, and there have been several innovations in various lines The operating in one of the surgical amphitheaters is done in a glass compartment, the spectators without, able to see through the glass what is being done, while absolute asepsis prevails around the operating table The opening of the new hospital relieves the older hospitals and enables them to be set apart for certain classes of patients thus specializing them to a certain extent

LONDON LETTER

Cancer in Wild Animals

At the third meeting of the general committee of the Cancer Research Fund, the annual report which was read contained an account of most important work, and brought to light several facts which have a fundamental bearing on several of the crucial problems of cancer, and give definite indication of the line of future inquiries An extensive series of tumors from various domestic animals has been examined, many from lower vertebrates, including 14 cases of carcinoma in fish Two cases of malignant growths in fish are of special interest because they were derived from marine fish living in a state of nature A similar interest attaches to a spheroidal celled carcinoma discovered in a wild mouse These are the first fully authenticated cases of cancer in wild animals Upward of 2,000 specimens were examined, derived as follows Human, 266, horse 116, cow, 99, dog, 247 cat, 43, pig, 8, frog 6, bird, 13, mouse, 850, fish, 80, rat, 28, rabbit, 32, sheep, 8, goat, 7, bull, 1, miscellaneous, 329 'The general results obtained may be summarized thus Cancer has been found to pervade the whole vertebrate kingdom and to present constant fundamental characters The great diversity of the food, habitat, and conditions of life generally shows that such external agencies have no causative influence. The histologic characters, methods of growth and the absence of specific symptomatology lead to the conclusion that the causative factors must not be sought outside the life processes of the cells Growth after transplantation is possible in the bodies of animals of the same species Certain cells of malignant growths of man and animals were found to present nuclear changes similar to those by which the sexual cells are prepared for fertilization and the fusion nuclei in a manner equivalent to conjugation has been repeatedly demonstrated in transplanted tumors of the mouse, and has acquired increased significance from the discovery of the like phenomenon in a primary tumor from man If it should be generally established that cell conjugation takes place this would afford a harmonious explanation of all their features and the initiation of the cancerous cycle Under the heading of 'Statistical Investigations" the report furnishes a large amount of information and shows that certain popular beliefs as to the immunity of certain countries or races of men can not be sustained. Specimens have been obtained from the natives of regions of Africa in which cancer had not been discovered before The report of the treasurer appeals for more support Even with the aid of Mr W W Astor's munificent contribution of $100 000 the income does not meet current expenses

DUBLIN LETTER

Dublin Hospitals

As certain Dublin hospitals receive government grants, they are each year inspected by the board of superintendence. The annual report of this board is usually of some interest, for the statistics as to income expenditure and work The report is itself usually of a somewhat perfunctory nature, but this year, the board having apparently puzzled their brains to find something novel to write about, give a discursive and rather silly lecture on the application of *x* rays and other rays to medicine and surgery It is of course obvious that no general hospital is properly fitted unless it contains an *x* ray department and the board wastes its breath in laboring this point But when they also suggest that "necessity exists in every well equipped hospital for the installation of an apparatus for the use of the Finsen treatment," they are suggesting a very improper extravagance The Finsen treatment is as yet in its probationary stage, and it would be as foolish as it would be unnecessary for each of the very many small general hospitals in Dublin to incur the large expense such an outfit would demand The requirements of the city, as regards Finsen treatment, are quite adequately met by the hospitals which already are furnished with the apparatus The reports on the individual hospitals are in the usual complacent style of indiscriminate praise or mildest possible censure To read them one would think that each of the hospitals was managed in a perfectly satisfactory manner, an opinion very far from being justified For instance, we find no notice taken of the fact that the outbreak of smallpox with which Dublin was troubled last year, took its spread from the imperfect disinfection practices in a fever hospital where one imported case had to be treated In the report on this same hospital there is no mention made of any precaution being taken to prevent secondary infection, yet it is notorious that secondary infection is there very common Similarly the board of superintendence do not draw any attention to the fact that it is a by law of another of the hospitals they have supervised that any official of the hospital taking part in, or conniving at, any examination of a dead body in the institution is *ipso facto* dismissed Yet, if government superintendence is to do any good, it should aim at correcting such faults in management as these

Presentation to Professors Coffey and Ryan

An interesting ceremony took place a few days ago at the Catholic University School of Medicine, when the faculty, with a number of past and present students, met to present Dr Coffey and Dr Ryan tokens of friendship and regard on the occasion of their approaching marriages Both men stand high in the esteem of the profession as successful and inspiring teachers, as well as for their personal qualities, while their contributions to the sciences—physiology and chemistry—which they respectively teach, maintain the reputation of the Dublin school

Health of Dublin

We are so used to regarding Dublin as one of the most unhealthy, cities in Europe, if not indeed the most unhealthy, that it came as a pleasant surprise to us to learn recently that the death rate was approaching the figures that obtain in other cities in the kingdom In one week indeed the rate ran as low as 16 7 per thousand, but unfortunately the improvement was only temporary The real cause of the high mortality in Dublin is the fearful condition of the tenement houses, in which the majority of the poorer classes live, and to grapple with this serious problem no attempt has yet been made

The Irish Medical Association.

The annual meeting of the Irish Medical Association, which was held here recently was occupied chiefly, as might be expected, with the demands for reform in the Poor Law Medical Service Though progress seems slow there is no doubt that the public is at last being persuaded that the present system is bad Mr Tobin has succeeded Dr Leonard Kidd as president of the association

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Correspondence.

International Congress of Arts and Science

WASHINGTON, D C, Aug 26, 1904

To Members of the Medical Profession —The organizers of the International Congress of Arts and Science, to be held at the Universal Exposition, St Louis, Sept 19 to 25, 1904, desire to invite the special attention of your profession to the unexampled opportunity which it offers to meet and hear a great number of eminent men of learning It is expected that more than three hundred eminent scholars of Europe and America will deliver discourses in the various departments and sections of the congress, and that several hundred shorter communications will be made by those present Among the foreign members of the profession who have accepted invitations to speak are Profs Brunton, Semon, Ross, Celli, Orth, Liebreich, Allbutt, Kitasato and Escherich Dr William Osler is chairman of the department

It is the desire of the directors of the fair and of all concerned in the organization that professors and instructors in our colleges and universities, and members of the learned professions generally, shall, so far as possible, do honor to our distinguished visitors by attending the meetings of the congress For this no fee is charged and no formality is necessary except enrollment on arrival It is, however, desirable to apprise Mr Howard J Rogers, director of congresses, Universal Exposition, St Louis, in advance, what departments of the Congress one desires to attend A program of its proceedings, with such other instructions as may be necessary, will be sent by Mr Rogers on application

SIMON NEWCOMB,
Chairman of the Organizing Committee
NICHOLAS MURRAY BUTLER,
Chairman of the Administrative Board

Method of Making Yellow Oxid Ointment.

BURLINGTON, IOWA, Aug 23, 1904

To the Editor —I notice a suggestion in Dr Bulkley's "Notes on Ointments," which I consider inadequate, if not misleading Otherwise we would not have the perennial complaint from ophthalmologists that it is hard to get satisfactory "yellow oxid ointment" This suggestion is that gritty substances should first be rubbed up with a few drops of oil in a mortar to make a fine paste I object to the use of the mortar because a sheet of plate glass and a spatula are better Only with the latter can one be absolutely sure that no gritty particle is missed No oil or water is needed The spatula, holding a modicum of the base (just enough to do it), picks up the grits, which are then rubbed out until they can be rubbed no farther, and the spatula cleans itself Not only can every particle of grit thus be felt, but one can also hold the plate up to the light for inspection with a magnifying glass The base is now added in mass and the mixing completed with the spatula I had the pleasure of demonstrating this method to the Section on Ophthalmology, producing a perfect yellow oxid ointment, at the Denver session of the American Medical Association H B YOUNG

North Carolina's Early Law on Practice

KINSTON, N C, Aug 24, 1904

To the Editor —I noticed in THE JOURNAL, August 13, that you state in an editorial that Illinois had the first effective law regulating the practice of medicine North Carolina really should have that distinction, her law having been passed in 1857 The remarkably high standing of her profession, which we believe to be higher than any other state, on an average, is due to her splendid medical laws, which have been "effective more than a quarter of a century"

JAMES M PARROTT,
Member of the Carolina State Board of Medical Examiners

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed

ARISTOCRACY IN MEDICINE

B writes In an issue of THE JOURNAL published within the past year attention was called to the fact that the degree of M D had a very wide range of value It was pointed out that all classes of medical schools, the bad, the good and the best, conferred the same degree, and that unfortunately, no means existed whereby the value of the M D could be gauged All were M D s all were physicians This being so, I should like to have a careful consideration and an opinion on the following question Is it unprofessional for a physician to insert in very small type on his sign the degrees he has and from what institutions the lettering to be invisible except on close inspection This additional in formation (for example A B, Princeton M D, Harvard) is certainly of benefit to the public. It shows that the physician has obtained a good general education and that he has equipped himself for the medical profession by at least eight years of study, and therefore has some claim to the confidence of the community He should get some credit for his long and thorough course and this is a way of making an M D mean something Look at the difference in time One man goes through the grammar school and then studies medicine four years The other goes through the grammar school then high school four years then college four years, then medical school four years then hospital two years Why should he not demonstrate that four does not equal (4+4+4+2) 14 I think the day will come when this negative demonstration will be made by all those who can do so and that too by means of the sign I can see nothing unprofessional in it On the other hand I think it is a suggestion which could be widely adopted to the profit of the physician the profession and the public Please do not reveal my name in any way or to any one

Answer —The question raised is not new Custom decrees that t is not good taste to place on one s sign the name of one s school of graduation. To run counter to this custom would not be unprofessional but we think that it would be unwise Our correspondent overlooks in his letter the fact that all sorts of physicians the bad the good and the best are at times graduates from the very best of medical schools In the last analysis every physician must rise or fall on his own individual ability and character It can not be otherwise The assumption that a physician might command success on the reputation of his alma mater refutes itself If such were the case the cleverest wicked men among those contemplating the study of medicine would attend solely those schools whose reputation would insure to the holders of their degrees professional standing and success Nothing would be gained in the end by the adoption of such a custom while many good and capable men who have been forced by one or other circumstance to attend a school of low degree would suffer unmerited ostracism. The school does not make the physician Our correspondent s plan would make it too easy for the lazy and the indifferent, who were just capable of scraping under the minimum requirements of the fourteen years of preparation The profession has already adopted the better course viz having the state require a certain standard of personal general and professional education Unfortunately our own medical schools while on the whole worthy of all admiration have shown that unaided they can not maintain the required standard The best feel the competition of the poorest. There is many a medical school whose degree granted a decade or two ago was more worthy of respect and confidence than that of the same school to-day and vice versa In this country at least our profession must be democratic and not aristocratic as proposed by our correspondent

EFFECTS OF FORMALIN ON TISSUES

Dr. Frederick C Murray Cedar Rapids Iowa writes Some months ago I read a brief reference to the action of formaldehyd on the abdominal contents or other tissues of the recently dead body When formalin embalming fluid was used certain marked changes took place in certain tissues, which simulated pathologic lesions and might lead to errors in postmortem diagnosis Would it be presumption to suggest provided information is definite and reliable as to formaldehyd s action under such circumstances that some publicity be given to it, perhaps among Minor Notes In my limited experience it has seemed to me that this action of formalin embalming fluid has very seriously confused the findings at several postmortems recently witnessed so that I feel I am not the only person who needs enlightenment on this possible source of error

Answer —Embalming with formaldehyd alters the consistence of all the organs greatly as also their appearance making accurate diagnosis difficult for the most expert, and in many respects impossible The chief difficulties that might be mentioned are the following By vigorous use of the embalming trocar the undertaker usually punctures the stomach and intestines full of holes thus emptying their contents into the peritoneal cavity and making difficult or impossible any search for suspected perforations or chemical examination of their contents in suspected poisoning cases The peritoneal coat is so roughened that recognition of an early or acute form of peritonitis is usually impossible Firm contraction of the muscular walls of the intestine occurs in response to the stimulus of the formalin so that local areas of contraction appear that may be mistaken by the uninitiated for strictures Stomach and intestines are hardened into such a leathery condition that there are some technical difficulties in their examination but not insurmountable All the organs that the formalin penetrates are made very hard, almost woodeny in consistence but as the distribution of the hardening fluid is often very irregular some confusing conditions may appear The hardening of the kidneys is very easily mistaken for the induration of a chronic nephritis and similar errors may be made in the case of the liver and spleen The coagulating action of the fluid practically precludes the detection of cloudy swelling and other finer changes. In the lungs there are especial difficulties, because a soft exudate may be so hardened as to change its appearance entirely and so a hypostatic edema may be mistaken for a pneumonia A bronchopneumonia of simple type is often indistinguishable from a tuberculous lesion under these conditions On the other hand hardening of the brain by formalin if the injection has been sufficiently efficient to do this is often of considerable aid in removing the brain and in its examination, making it much easier to ascertain relations of lesions etc It is, indeed a recognized procedure in autopsies to inject the carotids with formalin for this very purpose as a hardened brain can be removed with much less danger of producing artefacts than can a fresh one And also the histologic findings are often very beautiful in tissues taken from these bodies in which every cell while still warm has been quickly surrounded by the hardening fluid although with some of the fluids used there is sometimes a heavy precipitate formed that is very troublesome Many lesions of the parenchymatous organs should be left for diagnosis in these embalmed bodies until after microscopic examination It is hardly necessary to add that one of the most serious objections to embalming of bodies is that it precludes absolutely any bacteriologic examinations which in many cases are by far the most important part of the autopsy

METHODS OF PRODUCING EUTOCIA

A of Michigan writes Kindly inform me whether there is known to the medical profession any remedy which if given during pregnancy will cause the pelvic bones to loosen up or the pelvic muscles to relax and thus delivery be made easier We have here a brother practitioner who advertises that while East he became acquainted with such a remedy and that the same is not yet revealed unto the medical fraternity who have not been East to learn about it. Now this would all be absurd if people would only think but many do not make such an effort and not a few have already begun to take this remedy A good friend of mine whose wife is pregnant came to me a few nights ago and asked me about this new discovery and whether it were true that our brother has a monopoly or the article in this part of the world Will you kindly state in The Journal whether there is any such remedy?

Answer.—Our correspondent seems to possess the only satisfactory means of combating the absurd claims of his humbugging colleague—an indulgent sarcasm It is now generally although not universally, admitted that there is during pregnancy a slight increase in the mobility of pelvic articulations due to an increase in the succulence of the ligaments and capsulary membranes A similar change in the soft parts composing the pelvic floor also favors the formation of the normal obstetric canal These changes are subject to slight physiologic variations but we know of no pills or powders that affect them Various methods of making the child bearing process easier in cases where the pelvis is normal in size and possible when the pelvis is contracted have been sought from time to time They generally aim at reducing the size of the child or making its bones more pliable. The dietetic treatment is most common Sometimes the mother has been partly starved sometimes she is kept on a fruit diet and more recently Prochownik has proposed an anti obesity diet for the last two months of pregnancy to prevent the accumulation of fat by the fetus Occasionally drugs have been given which disturb the appetite and thus interfere with the growth of the child by lessening the nutrition of the mother All such attempts to interfere with Nature except perhaps a careful use of Prochowink s diet are apt to be harmful if they are not simply useless and absurd

PRIVATE PAID QUIZ COURSES

Dr D W Evans Scranton Pa writes There is one curse that should be blotted from the medical schools of this country and that is the private paid for quiz course given by the teacher but which is usually conducted by a super or perhaps a super number two otherwise known as the men next to the professor First of all it is cash in hand and the poor student who has not the cash feels at once the cutting lance of class legislation (for the faculty says nothing which means O K) and many a student poor financially has been made dishonest as well as discouraged by such proceedings When it is as generally known as is the unchangeableness of the laws of the Medes and Persians that if you take my course you pass my chair A little time ago while taking in some of the medical schools I noticed in one city in particular it was common and I took note in one of the oldest and most dignified institutions in America had not less than four quiz courses posted and each one in such a conspicuous place and so large and plain that they would even scare the dispensary patient who happened to run against them and especially would it scare him when $100 was the price a larger sum than is paid for an entire year s tuition in some of the best institutions of the land And all this for one branch why not for all branches and not have a school at all? Then other things being equal none but the wealthy could even entertain an idea of medicine let alone support themselves while going through as have hundreds of young men who are our brightest and keenest men to-day I say abolish it. Devise some other method of robbing the student and not under the cloak of a professorship I trust the Council on Medical Education of the American Medical Association and other organized educators will investigate and abolish one of the remnants of feudalism the board wastes its breath in laboring this point But when they also suggest that "necessity exists in every well equipped hospital for the installation of an apparatus for the use of the Finsen treatment," they are suggesting a very improper extravagance The Finsen treatment is as yet in its probationary stage, and it would be as foolish as it would be unnecessary for each of the very many small general hospitals in Dublin to incur the large expense such an outfit would demand The requirements of the city, as regards Finsen treatment, are quite adequately met by the hospitals which already are furnished with the apparatus The reports on the individual hospitals are in the usual complacent style of indiscriminate praise or mildest possible censure To read them one would think that each of the hospitals was managed in a perfectly satisfactory manner, an opinion very far from being justified For instance, we find no notice taken of the fact that the outbreak of smallpox with which Dublin was troubled last year, took its spread from the imperfect disinfection practices in a fever hospital where one imported case had to be treated In the report on this same hospital there is no mention made of any precaution being taken to prevent secondary infection, yet it is notorious that secondary infection is there very common Similarly the board of superintendence do not draw any attention to the fact that it is a by law of another of the hospitals they have supervised that any official of the hospital taking part in, or conniving at, any examination of a dead body in the institution is *ipso facto* dismissed Yet, if government superintendence is to do any good, it should aim at correcting such faults in management as these

Presentation to Professors Coffey and Ryan

An interesting ceremony took place a few days ago at the Catholic University School of Medicine, when the faculty, with a number of past and present students, met to present Dr Coffey and Dr Ryan tokens of friendship and regard on the occasion of their approaching marriages Both men stand high in the esteem of the profession as successful and inspiring teachers, as well as for their personal qualities, while their contributions to the sciences—physiology and chemistry—which they respectively teach, maintain the reputation of the Dublin school

Health of Dublin

We are so used to regarding Dublin as one of the most unhealthy, cities in Europe, if not indeed the most unhealthy, that it came as a pleasant surprise to us to learn recently that the death rate was approaching the figures that obtain in other cities in the kingdom In one week indeed the rate ran as low as 16 7 per thousand, but unfortunately the improvement was only temporary The real cause of the high mortality in Dublin is the fearful condition of the tenement houses, in which the majority of the poorer classes live, and to grapple with this serious problem no attempt has yet been made

The Irish Medical Association.

The annual meeting of the Irish Medical Association, which was held here recently was occupied chiefly, as might be expected, with the demands for reform in the Poor Law Medical Service Though progress seems slow there is no doubt that the public is at last being persuaded that the present system is bad Mr Tobin has succeeded Dr Leonard Kidd as president of the association

Correspondence.

International Congress of Arts and Science

WASHINGTON, D C, Aug 26, 1904

To Members of the Medical Profession —The organizers of the International Congress of Arts and Science, to be held at the Universal Exposition, St Louis, Sept 19 to 25, 1904, desire to invite the special attention of your profession to the unexampled opportunity which it offers to meet and hear a great number of eminent men of learning It is expected that more than three hundred eminent scholars of Europe and America will deliver discourses in the various departments and sections of the congress, and that several hundred shorter communications will be made by those present Among the foreign members of the profession who have accepted invitations to speak are Profs Brunton, Semon, Ross, Celli, Orth, Liebreich, Allbutt, Kitasato and Escherich Dr William Osler is chairman of the department

It is the desire of the directors of the fair and of all concerned in the organization that professors and instructors in our colleges and universities, and members of the learned professions generally, shall, so far as possible, do honor to our distinguished visitors by attending the meetings of the congress For this no fee is charged and no formality is necessary except enrollment on arrival It is, however, desirable to apprise Mr Howard J Rogers, director of congresses, Universal Exposition, St Louis, in advance, what departments of the Congress one desires to attend A program of its proceedings, with such other instructions as may be necessary, will be sent by Mr Rogers on application

SIMON NEWCOMB,
Chairman of the Organizing Committee
NICHOLAS MURRAY BUTLER,
Chairman of the Administrative Board

Method of Making Yellow Oxid Ointment.

BURLINGTON, IOWA, Aug 23, 1904

To the Editor —I notice a suggestion in Dr Bulkley's Notes on Ointments," which I consider inadequate, if not misleading Otherwise we would not have the perennial complaint from ophthalmologists that it is hard to get satisfactory 'yellow oxid ointment" This suggestion is that gritty substances should first be rubbed up with a few drops of oil in a mortar to make a fine paste I object to the use of the mortar because a sheet of plate glass and a spatula are better Only with the latter can one be absolutely sure that no gritty particle is missed No oil or water is needed The spatula, holding a modicum of the base (just enough to do it), picks up the grits, which are then rubbed out until they can be rubbed no farther, and the spatula cleans itself Not only can every particle of grit thus be felt, but one can also hold the plate up to the light for inspection with a magnifying glass The base is now added in mass and the mixing completed with the spatula I had the pleasure of demonstrating this method to the Section on Ophthalmology, producing a perfect yellow oxid ointment, at the Denver session of the American Medical Association H B YOUNG

North Carolina's Early Law on Practice

KINSTON, N C, Aug 24, 1904

To the Editor —I noticed in THE JOURNAL, August 13, that you state in an editorial that Illinois had the first effective law regulating the practice of medicine North Carolina really should have that distinction, her law having been passed in 1857 The remarkably high standing of her profession, which we believe to be higher than any other state, on an average, is due to her splendid medical laws, which have been "effective more than a quarter of a century"

JAMES M PARROTT,
Member of the Carolina State Board of Medical Examiners

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish his name will be faithfully observed

ARISTOCRACY IN MEDICINE

B writes In an issue of THE JOURNAL published within the past year attention was called to the fact that the degree of M D had a very wide range of value It was pointed out that all classes of medical schools, the bad, the good and the best, conferred the same degree, and that, unfortunately, no means existed whereby the value of the M D could be gauged All were M D s all were physicians This being so, I should like to have a careful consideration and an opinion on the following question Is it unprofessional for a physician to insert in very small type on his sign the degrees he has and from what institutions the lettering to be invisible except on close inspection This additional in

Death Abroad

Sir William Mitchell Banks, M D University of Edinburgh, 1864, gold medaler of that year, afterwards demonstrator of anatomy in Glasgow, and in 1869 Fellow of the Royal College of Surgeons of England, and one of the most eminent anatomists and surgeons of Great Britain, died at Aix la Chapelle, August 9, aged 61 He was consulting surgeon of the Liverpool Royal Infirmary and professor and emeritus professor of anatomy at the University of Liverpool He took an active interest in the organization of the Liverpool School of Medicine In recognition of his services to surgery and science he was knighted in 1899 He was particularly interested in the study of cancer and delivered the Lettsomian lectures on Cancer of the Breast in 1900 As a teacher of anatomy and as a clinical professor he was unequaled in Great Britain He was a member of the British Medical Association and president of the Lancashire and Cheshire Branch He was president of the Liverpool Biological Society and of the Liverpool Medical Institution vice president of the Medical Society of London, and a corresponding member of the Association of Military Surgeons of the United States

Book Notices.

MATERIA MEDICA PHARMACOLOGY AND THERAPEUTICS INORGANIC SUBSTANCES By Charles D F Phillips M D LL.D (Abdn. and Edin) F R S (Edin) Hon Fellow Medico-Chirurgical College. Pennsylvania Member of the Academy of Medicine of America Examiner of Materia Medica University of Aberdeen etc Third Edition. London. New York and Bombay Longmans Green & Co

This edition has been thoroughly revised and many pages entirely rewritten In the first chapter the author gives an excellent résumé of the recent investigations in the action and uses of oxygen and ozone in medicine We note also the chapter devoted to water its action and uses, and can say we know of no general treatise which has given this subject such complete and practical consideration Detailed description of the many and varied uses of water in the domain of therapeutics is lacking in works of this character This chapter will appeal to many who have only a most general concept of the use of water in disease Full consideration is given both the internal and external uses of water, including sea bathing, medicated waters, describing particularly the value of many of the famous natural waters We commend the general classification of subjects based on the chemistry of the elements and drugs The gases and non metallic elements are first considered, then the halogen group with reference to the newer derivatives from iodin, the glycerophosphates, cacodylates, etc The acids are next in order and the text completed by the description of the metals The author has quoted liberally from the recent literature, making the book up to date The method of description of a drug and its preparations is systematic and complete, the physical characters, the tests, the physiologic action, toxicology and therapeutic application are each treated of in detail Reference is made in the most of the chapters to the synergists as well as to the antagonists and incompatibles This will be found of practical use to the beginners The most important drugs, for example, arsenic, mercury, etc, are fully described and especial attention is given to the various diseased conditions they are used in and to the preparation most indicated We would criticise the index, believing it to be of value as a reference for remedies in the treatment of disease, but very incomplete and of practically no value as a reference for the study of the individual drug The index includes references made to drugs in the companion volume which is not yet published A fuller index limited in its reference to this volume would be far more serviceable

INTERNATIONAL CLINICS A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine. Surgery Neurology Pediatrics Obstetrics Gynecology Orthopedics. Pathology Dermatology Ophthalmology Otology Rhinology Laryngology Hygiene and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World Edited by A. O J Kelly A.M. M D Philadelphia With Regular Correspondents in Montreal London Paris. Berlin. Vienna Leipsic, Brussels and Carlsbad. Volume II. Fourteenth Series 1904. Cloth Pp 300 Price, $2.00 Philadelphia J B Lippincott Co. 1904.

The excellency and value of this volume is in keeping with previous publications in this series It contains many articles of more than usual interest and notable among these are the series on diseases of warm climates contributed by Drs Mason McCrae, Jarvis, Smith and others The papers on the treatment of arteriosclerosis by Nichols and Bierring, one on the "Utility of Digitalis in Heart Disease" by French, a medical clinic by Billings, and an article on "Bronchopneumonia in Children" by Abt, are also worthy of mention The volume abounds in an unusual number of illustrations, especially the series of papers on diseases of warm climates Illustrations always are valuable because they serve to elucidate a point far better than could be done by the best description Eye pictures excel word pictures, and every article ought to be illustrated as much as is possible

NORMAL HISTOLOGY By Edward K Dunham PH B M D Professor of General Pathology Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York Third Edition Revised and Enlarged Illustrated with 260 Engravings Cloth Pp 332 Price $2 75 New York and Philadelphia Lea Brothers & Co 1904

This is the third edition of a work which is deserving of more recognition than has been accorded to it in the past The arrangement of the subject matter is excellent, the sequence being such as to lead the student up gradually, beginning with the cell and ending with the organs of the special senses The introduction is excellent but has hardly gone far enough to prepare the student adequately for what is to follow Still it may be assumed that the student has studied embryology and biology prior to his entrance in the medical college, and a more extended introduction would therefore take up space which can be devoted more profitably to a discussion of histology itself The chapter on histologic technic is concise and to the point, not attempting to confuse the student by presenting many methods of tissue preparation and staining The book abounds in excellent illustrations, most of which have been taken from other works on histology

THE SURGERY OF THE HEART AND LUNGS A History and Résumé of Surgical Conditions Found Therein, and Experimental and Clinical Research in Man and Lower Animals with Reference to Pneumonotomy Pneumonectomy and Bronchotomy and Cardiotomy and Cardiorrhaphy By Benjamin Merrill Ricketts Ph B M D Cloth Pp 510 Price, $5 00 New York The Grafton Press. 1904

Those who are familiar with the large amount of experimental work on the heart and lungs which has been done by the author of this work will be very glad to have it all in book form One finds here, however, not only the experimental work which in itself is very interesting, but also practically all that has thus far been accomplished in this comparatively newer field of operative surgery The work is well illustrated by 87 plates almost all of which are new and original, and the bibliography is very extensive, but so subdivided and distributed throughout the work as to facilitate ready reference to any particular subject It is by experimental work that the border line of surgery is constantly advanced, and one can not help but find in this work much that is of real value as well as of great interest

State Boards of Registration.

COMING EXAMINATIONS

New Hampshire State Medical Board September 8-9 State House Concord Regent Channing Folsom Concord

Massachusetts Board of Registration in Medicine, September 13-14 State House Boston Secretary Edwin B Harvey M D Boston.

Missouri State Board of Health September 19 21 St. Louis Secretary W F Morrow M D Kansas City Mo

Iowa State Board of Medical Examiners September 21 22 Capitol Building, Des Moines. Secretary J F Kennedy M.D Des Moines.

Territorial Medical Examining Board of Oklahoma September 28 Guthrie Secretary E E Cowdrick M.D Enid.

New York State Medical Examining Board, September 27 30 New York Albany Syracuse and Buffalo Secretary Charles F Wheelock, Albany

Connecticut July Report—Dr Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, July 12 13, 1904 The number of subjects examined in was 7, total questions asked 70 and percentage required to pass, 75 The total number examined was 51, of whom 39 passed and 12 failed The following colleges were represented

PASSED

College		Year Grad	Per Cent
Jefferson Medical College, Philadelphia		(1904)	84 4
Maryland Medical College		(1904)	78 3
McGill University	(1898) 79 1,	(1904)	80 6
University and Bellevue Medical College		(1904)	80 3
Univ of Pennsylvania	(1901) 79 2, (1903) 81 3	(1904)	77 9
Cornell University		(1904)	81 2, 82 2
Johns Hopkins University		(1904)	81 0
University of Vermont	(1903) 81 3	(1904)	77 2
Baltimore Medical College	(1903) 75 5	(1904)	78 6
Woman's Medical College		(1903)	84 8
College of P and S Baltimore		(1904)	76 7, 79 9, 83 3
Yale, (1903) 77 7, 80 9 84 (1904) the grade of 80 was reached by one, 81 by one 82 by four 84 by one and 86 by three			
College of P and S of New York (1876) 85 2 (1900) 75 8 (1902) 86 3, (1904) 83, 82 1, 76 6 75 7			

FAILED

College		Year Grad	Per Cent
College of P and S Baltimore	(1903) 68 2,	(1904)	74 1
Maryland Medical College		(1904)	72 6
University of Naples	(1901) 72 7 57 6	(1902)	71 6
University of Maryland		(1904)	71 4
University of Vermont		(1898)	67 0
Baltimore Medical College	(1903) 72 7,	(1904) 74 3	62 4
Yale		(1903)	73 6

23 5 per cent failed

The general average for all representatives of Yale who passed was 82 6 For those of the College of Physicians and Surgeons of New York was 80 6

Nebraska August Report—Dr G H Brash, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, August 3 4, 1904 The number of subjects examined in was 8, total questions, 80, and percentage required to pass, 75 The total number examined was 6, all of whom passed The following colleges were represented

PASSED

College	Year Grad	Per Cent
Rush	(1904)	84 6
Jefferson	(1900)	80 2
Washington University St Louis	(1904)	87 2
Omaha Medical College	(1901)	*75 1
Central Medical College St Joe	(1904)	79 8
Northwestern University Medical Department	(1904)	78 1

*Second examination

Arizona July Report—Dr Ancil Martin secretary of the Board of Medical Examiners of Arizona, reports written examination held at Phoenix July 4 and 5, 1904 The number of subjects examined in was 9, total questions asked 90, and percentage required to pass 80 The total number examined was 10, of whom 6 passed and 4 failed The following colleges were represented

PASSED

College	Year Grad	Per Cent
Vanderbilt University	(1885)	80
Queen's University Ontario	(1883)	87
University of Michigan	(1903)	83, 90
Chicago Homeopathic Medical College	(1901)	80
University of Southern California	(1903)	86

FAILED

College	Year Grad	Per Cent
Michigan College Medicine and Surgery Detroit	(1902)	67
Detroit Homeopathic Medical College	(1875)	65
College of Medicine, California	(1882)	52
Toledo Medical College	(1891)	57

Indiana July Report—Dr W T Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 12 14, 1904 The number of subjects examined in was 18, total questions asked, 130, percentage required to pass, 75, no two subjects less than 50 per cent, and no one less than 40 per cent The total number examined was 118, of whom 105 passed (including one osteopath with a grade of 76 6) and 13 failed The following colleges were represented

PASSED

College — Year Grad — Per Cent
Rush Medical College, (1897) 87 3 (1902) 88 4 (1903) 79, (1904)
81 2, 87 6, 92 6
Hospital College of Medicine Louisville, (1891) 75 3, (1903) 77 3,*
(1904) 80 9 81 7 83 8, 87 3
Chicago Homeopathic Medical College (1904) 82 2 82 2 83 2,
85 1, 84 8
Homeopathic Med Coll of Missouri (1904) 77 2
Louisville Medical College (1903) 76 4 (1904) 77 1 77 2 86 2
Kentucky University (1904) the grade of 79 5 was reached by
one, 80 by one, 82 6 by one, 83 by four 84 5 by two
Medical College of Ohio (1873) 79 1 (1902) 81 0
Bennett Medical College Chicago (1902) 88 8
University of Louisville (1894) 82 2 (1904) 81 4, 82 2 84 2 85 5
85 6, 87 2, 90 3
American Coll of Med and Surg Chicago (1904) 88 0
Washington University (1903) 84 6 (1904) 85 0
Fort Wayne College of Medicine (1904) 87 6
Physio-Medical College of Indiana (1904) 78 4 80 8 80 9
Medical College of Indiana (1904) the grade of 83 was reached by
two 84 5 by three 85 1 by three 85 8 by one 86 5 by three
87 by one
Univ and Bellevue Hosp Med Coll (1903) 83 7
Northwestern University (1904) 79 5
Kentucky School of Medicine, (1902) 83 1,† (1903) 80 2, (1904)
the grade of 84 4 was reached by three, 82, 85 and 87 were
each reached by one
Harvey Medical College, Chicago (1902) 89 2
Illinois Medical College, Chicago (1902) 80 0
University of Michigan (1902) 89 8 (1904) 91 2
University of Illinois (1903) 88 6, (1904) 83 5, 84 3
Jefferson Medical College (1904) 83 6, 85 0, 86 1, 88 3
Hering Medical College, Chicago (1904) 86 2
Eclectic Medical Institute (1903) 81 6,** (1904) 80 5, 77 0
Medico Chirurgical College (1902) 85 1
College of P and S, Keokuk (1887) **82 2
Dunham Medical College, Chicago (1902) 87 9
Central College of P and S, Indianapolis, (1904) 86 2, 88 3, 86 8,
81 8 87 5 85 3 84 5 88 7
Ohio Medical University (1903) 81 8
Barnes Medical College (1904) 86 3
Columbia University, New York (1898) 85 2
St. Louis College of P and S (1904) 78 0
Hahnemann Medical Coll Chicago (1897) 83 5, (1904) 84 6

FAILED

College		Year Grad	Per Cent
Eclectic Medical Institute		(1903)	*78 0
Medical College of Indiana		(1904)	67 9 70 6
Jefferson Medical College (1904) paper incomplete			
Rush Medical College, (1904) paper incomplete			
Homeopathic Medical College, Missouri		(1904)	61 0
Hospital College of Medicine		(1904)	50 3 63 5, 69 6 76
Kentucky University		(1904)	71 9, 78 5
University of Louisville		(1904)	73 4

*Second examination **Third examination †Fourth examination

The general average of all representatives of Kentucky University who passed was 82 8, of the university of Louisville, 84 5, of the Central College of Physicians and Surgeons of Indianapolis, 86 1, of Kentucky School of Medicine, 83 5, of the Medical College of Indiana, 85 2

Kansas July Report—Dr G F Johnston, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examination at Topeka, July 12 14 The number of subjects examined in was 9, total number of questions asked 90, percentage required to pass, 75 The total number examined was 29, all of whom passed The following colleges were represented

PASSED

College		Year Grad	Per Cent.
Hering Medical College Chicago		(1904)	85, 88
Kansas City Med Coll Kansas City Mo		(1904)	78, 78, 83
Eclectic Med Univ, Kansas City Mo		(1904)	75
Lincoln Med Coll Omaha Neb		(1904)	84
University of Illinois		(1904)	78, 79
Rush Medical College	(1903) 97,	(1904)	87 80
Medico Chirurgical Coll, Kansas City Mo		(1904)	86, 84, 87
Hahnemann Med Coll Kansas City Mo		(1904)	85, 88
Univ Med Coll Kansas City Mo		(1904)	94 83
Barnes Med Coll, St Louis		(1904)	89
Jefferson Med Coll Philadelphia		(1904)	93
Louisville Med Coll Louisville, Ky		(1904)	84, 92
Homeopathic Med Coll Chicago		(1904)	86
Kansas Med Coll Topeka		(1904)	90
Univ of Heidelberg, Germany		(1880)	79
Central Med. Coll St Joseph Mo		(1904)	82
Northwestern University Chicago		(1904)	82
Memphis Hosp Med Coll Memphis		(1886)	76

Utah July Report—Dr R W Fisher, secretary of the Utah State Medical Examining Board reports the written examination held at Salt Lake City, July 11 12 The number of subjects examined in was 20, total questions asked, 125, and the percentage required to pass was 75 The total number examined was 14, of whom 12 passed and 2 failed The following colleges were represented

PASSED

College		Year Grad	Per Cent
University Med Coll Kansas City		(1896)	81
University of Michigan	(1903) 81	(1904)	81
Rush Med Coll Chicago		(1894)	76
Coll of P and S Baltimore		(1904)	90, 83, 82
Denver and Gross Med Coll Denver		(1903)	83
Med Coll of Ohio Cincinnati		(1902)	89
Jefferson Med Coll Philadelphia		(1904)	87
University of Denver		(1903)	83
Barnes Medical College St Louis		(1903)	86

FAILED

College	Year Grad	Per Cent
Marion Sims College St Louis	(1904)	74
College of P and S Baltimore	(1904)	73

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U S Army week ending Aug 27 1904

Whitcomb, C C asst surgeon granted one month and fourteen days leave

Baker Frank C asst surgeon left Ord Barracks Cal, en route to Fort Sheridan Ill, to take part in Army infantry competition

Appel Daniel M surgeon reports on thirty days' leave from date

Owen Wm O surgeon, reported at U S Army General Hospital Presidio of San Francisco for treatment and observation from sick leave

Raymond Thos U surgeon detailed to represent medical department of the Army at meeting of the American Roentgen Ray Society to be held at St Louis Sept 9 to 13, 1904 is revoked

Reno Wm W asst surgeon, now on duty at St. Louis is detailed to represent the medical department of the Army at the meeting of the American Electro-Therapeutic Association to be held in that city Sept 13 to 16 1904

Johnson R W surgeon now on duty at St. Louis is detailed to represent the medical department of the Army at meeting of the American Roentgen Ray Society in that city, Sept 9 to 13 1904

Devereux J R asst surgeon left Fort Meade S D on ten days leave of absence

Bantlett C J asst surgeon assigned to duty at the Army and Navy General Hospital Hot Springs Ark

Raymond Thos U surgeon order relieving him from duty at Louisiana Purchase Exposition St Louis and assigned to duty at Fort Assinniboine Mont is revoked

Marrow Charles F asst surgeon assignment to duty at Manassas Va. during maneuvers is revoked

Baker Frank C asst surgeon assigned to duty at Manassas Va during maneuvers

Banister Wm B surgeon left Jefferson Barracks Mo en route to San Francisco with recruits

McCulloch C C asst surgeon will take charge of the office of the chief surgeon Department of the East during the absence of Major John L Phillips surgeon at the maneuvers at Manassas Va acting chief surgeon

Noble R E asst. surgeon granted fourteen days leave of absence.

Mabry William C contract surgeon arrived at the camp of the organized militia of Ohio at Athens for duty

Hussey Samuel W contract dental surgeon granted leave of absence for two months from Fort Snelling Minn

Ware William H contract dental surgeon granted leave of absence for two months before going to duty at Fort Logan Colo

Woods, Oscar W contract surgeon granted leave of absence for two months from Vancouver Barracks Wash

Brooks John D contract surgeon left Fort Meade S D August 19 and arrived at Fort Crook Neb August 21 for temporary duty

Greenberg Harry contract surgeon granted leave of absence for one month.

Griffith Lewis T contract surgeon ordered from Troy N Y to Manassas Va for duty during the maneuvers

Voorhies Hugh G contract dental surgeon granted an extension of one month to his leave of absence

Navy Changes.

Changes in the medical corps U S Navy for the week ending Aug 27 1904

Kennedy R M surgeon detached from Naval Hospital New York and granted sick leave for one month

Huntington E. O surgeon detached from Naval Hospital Portsmouth N H and ordered to duty at the Naval and Marine Recruiting stations Chicago August 24

Braisted, W C surgeon detached from the *Relief* and ordered to the *Pensacola*

Guthrie J A P A surgeon granted an extension of leave for three months

Wilson H D P A surgeon ordered to duty at the Naval Hospital Portsmouth N H

Wise A H A A. surgeon detached from the Naval and Marine Recruiting Stations Chicago and ordered to duty with Naval Recruiting Party No 1 August 25

Duncan G F A A surgeon detached from the *Franklin* and ordered to duty with Naval Recruiting Party No 3

Dabney V A A surgeon ordered to duty with Naval Recruiting Party No 2

Lewis D O medical inspector commissioned a medical inspector from Jan 4 1904

Wheeler, L H asst surgeon detached from duty at the Naval Hospital Boston and ordered to duty as recorder Naval and Medical Examining Board Washington D C

Marine-Hospital Service

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the thirteen days ended Aug 24 1904

Purviance Geo asst. surgeon general granted extension of leave of absence for one month from Aug 1 1904 on account of sickness

Williams L L asst surgeon general relieved from status of absent on leave and directed to assume temporary command of the Cape Fear Quarantine Station during the absence on leave of Asst surgeon B S Warren On the return of Asst surgeon Warren to resume status absent on leave

Williams L L asst surgeon general granted extension of leave of absence for fifteen days from August 18 on account of sickness

Bailhache P H surgeon granted leave of absence for seven days from Aug 14 1904 under the provisions of Paragraph 191 of the Regulations

Foster M H P A surgeon granted leave of absence on account of sickness for one month from Aug 18 1904

Fox Carroll asst surgeon granted leave of absence for three days under the provisions of Paragraph 191 of the Regulations

Schereschewsky J W asst surgeon to proceed to Philadelphia Pa for temporary duty in connection with the inspection of alien immigrants during the absence on leave of P A Surgeon Taliaferro Clark

Francis Edward asst surgeon granted leave of absence for seven days from Aug 8 1904 under the provisions of Paragraph 191 of the Regulations

Francis Edward asst surgeon granted extension of leave of absence for twenty one days

Warren B S asst. surgeon granted leave of absence for six days

Hunt Reid chief division of pharmacology granted leave of absence for six days from Aug 22 1904 under the provisions of Paragraph 210 of the Regulations

Walkley W S A A surgeon granted leave of absence for three days

Hallett I B A A surgeon granted leave of absence for four days

Bean L C A A surgeon granted leave of absence for five days from Aug 22 1904

Simonson G T A A surgeon, granted leave of absence for fifteen days from Aug 20, 1904

Grace J J A A surgeon granted leave of absence for thirty days from Sept. 23 1904

Loehrig A M pharmacist detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City Mo Sept 5 to 10 1904

Brock G H pharmacist relieved from duty at Delaware Breakwater Quarantine and directed to proceed to St. Louis Mo and report to medical officer in command for temporary duty

Gibson R H pharmacist, granted leave of absence for thirty days from Sept 7 1904

O Gorman T V pharmacist granted leave of absence for thirty days from Aug 18 1904

Miller Charles, pharmacist detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City Mo Sept 5 to 10 1904

Kolb W W pharmacist relieved from duty at the Savannah (Ga) Quarantine Station and directed to proceed to Washington D C and report at the Bureau preliminary to assignment to duty in the Hygienic Laboratory

Rogers Edward pharmacist, relieved from duty at Cleveland Ohio and directed to proceed to New York N Y (Stapleton) and report to the medical officer in command at that port for duty and assignment to quarters

Mason M R pharmacist granted leave of absence for fifteen days from Sept 1 1904

Southard F A pharmacist granted leave of absence for four days from Aug 8 1904 under the provisions of Paragraph 210 of the Regulations

Southard F A pharmacist relieved from duty in the Hygienic Laboratory Washington D C and directed to proceed to Cleveland Ohio and report to the medical officer in command at that port for duty and assignment to quarters

Spangler L C pharmacist, relieved from duty at the Tampa Bay (Fla) Quarantine and directed to proceed to Savannah (Ga.) Quarantine and report to the A. A surgeon in charge for duty and assignment to quarters

Van Ness G I Jr pharmacist relieved from duty at New York (Stapleton) and directed to proceed to Louisville Ky and report to the medical officer in command at that port for duty and assignment to quarters

BOARDS CONVENED

Board convened to meet at Washington D C Aug 25 1904, for N Y Aug 13 1904 for the physicical examination of a chief engineeer of the Revenue Cutter Service Detail for the board P A Surgeon A. C Smith chairman P A Surgeon C H Lavinder recorder

Board convened to meet at Washington D C Aug 25 1904 for the physical examination of a candidate for appointment in the Revenue-Cutter Service Detail for the board Asst. Surgeon General W J Pettus chairman Asst Surgeon A J McLaughlin recorder

Health Reports

The following cases of smallpox yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended Aug 26 1904

SMALLPOX—UNITED STATES

Georgia Macon Aug 13-20 1 case
Illinois Chicago Aug 13 20 6 cases
Louisiana New Orleans Aug 13-20 2 cases traced to importation
Michigan Grand Rapids Aug 13 24 1 case
Missouri St Louis Aug 13-20 2 cases 1 death
Pennsylvania Philadelphia Aug 13 20 1 case
South Carolina Charleston Aug 13-20 1 case
Tennessee Nashville Aug 13 20 2 cases

SMALLPOX—INSULAR

Philippine Islands Manila July 2 9 1 case

SMALLPOX—FOREIGN

Africa Cape Town July 8-16 1 death
China Shanghai. June 25-July 16 6 deaths
France Paris July 30 Aug 6 12 cases 1 death
Great Britain Glasgow Aug 6-12 9 cases Leeds Aug 6 13 2 cases July 30 Aug 6 London 2 cases 1 death Manchester 1 death Newcastle on Tyne 5 cases Nottingham July 23 30 1 case
India Bombay July 19 26 5 deaths Calcutta July 9 16 1 death
Italy Palermo July 23 Aug 6 31 cases 15 deaths
Mexico City of Mexico July 31 Aug 7 3 cases 1 death
Russia July 23-30 Moscow 13 cases 2 deaths St Petersburg 5 cases 1 death Warsaw July 8-16 27 deaths
Spain Barcelona Aug 1 10 9 deaths
Turkey Constantinople July 31 Aug 7 2 deaths

YELLOW FEVER

Ecuador Guayaquil July 20-27 7 deaths
Mexico Aug 6-13 Coatzacoalcos 2 cases 1 death Vera Cruz, 5 cases 1 death July 31 Aug 13 Merida 2 cases 2 deaths Tehuantepec 5 cases 4 deaths

CHOLERA

India Bombay July 19 26 1 death Calcutta July 9 16 7 deaths

PLAGUE—INSULAR.

Hawaii Hilo Aug 19 1 death
Philippine Islands Manila July 2 9 1 case 1 death

PLAGUE—FOREIGN

Africa Cape Colony July 9-16 1 case
Brazil Bahia June 16-July 24 24 cases 10 deaths

Egypt July 16 23, 16 cases, 8 deaths
India Bombay, July 19 26, 57 deaths, Calcutta, July 9 16, 5 deaths
Mauritius May 6 June 16 8 cases 7 deaths
Peru Lima, July 16-30, 15 cases, 7 deaths

Society Proceedings.

COMING MEETINGS

American Medical Association, Portland, Ore , July 11 14 1905

Rocky Mountain Interstate Medical Association, Denver, September 6 7
American Roentgen Ray Society St. Louis, September 9 13
American Association of Obstetricians and Gynecologists, St Louis September 13 15
American Electro Therapeutic Ass n, St Louis September 13 16
International Congress of Arts and Science Department of Medicine at Universal Exposition St Louis, September 19 25
Medical Society of the State of Pennsylvania Pittsburg September 27 29
Colorado State Medical Society, Denver October 4 6
Idaho State Medical Society, Lewiston, October 6 7
Tri State Medical Society of Alabama, Georgia and Tennessee, Chattanooga October 12 14
Assn of Military Surgeons of the U S , St Louis, October 10 15
Mississippi Valley Medical Association Cincinnati October 11 13
Vermont State Medical Society Rutland, October 13 14
New York State Medical Association, New York October 17 20
Medical Society of Virginia Richmond, October 18 21

BRITISH MEDICAL ASSOCIATION

Seventy second Annual Meeting, held at Oxford, July 26 30, 1904

(Continued from page 625)

Total Enucleation of the Prostate

In this paper Mr P J Freyer described his results in his 110 cases of suprapubic prostatectomy, the patients varying in age from 53 to 84 and the prostates weighing from ¾ of an ounce to 14¼ ounces The majority of the patients had been dependent on the catheter for periods varying up to 24 years Nearly all were in broken health and many were apparently moribund and few were free from complication In three cases the disease was malignant One died twenty days after the operation, when the wound was practically healed The other two made fairly good recoveries Excluding these three cases there were 107 cases of complete removal of the adenomatous prostate, of which 97 were completely successful, the power of retaining and passing urine without the aid of the catheter being regained In only two cases did septicemia follow operation, and this Mr Freyer ascribed to an immunity acquired by the patients from long absorption of septic urine There were ten deaths, two from mania after the wounds had practically healed, one from heat stroke on the tenth day, when the patient was practically convalescent, one from coma due to absorption of toxins from the urine, which had set in several days before operation, one from pneumonia seven days after operation, one from heart failure six hours after operation, one from heart failure, one from interstitial nephritis, and two from septicemia In only four or five cases could the deaths be ascribed to the operation But accepting all the deaths, the mortality is only 9 per cent —about one fourth of the mortality from lithotomy at the same ages Mr Freyer claimed that his operation gave results far superior to those attained by any other method of treatment

Pseudo-Malarial Fevers

The Section in Tropical *Medicine was undoubtedly one of* the most important and well reflected the recent great progress in the knowledge of tropical diseases The President, Dr Alexander Crombie, delivered an opening address on "The Fallacy of Finality" He pointed out that while clinicians believe in the existence in hot climates of fevers of a continued type other than typhoid and malarial, bacteriologists do not Notwithstanding the official returns, which show an overwhelming majority of admissions for malarial fevers, he believed that "ague" is not the most prevalent type of fever in India The commonest type is what he has called "single paroxysm fever" The paroxysm may be of a few hours or few days' duration, but it is a single paroxysm and has no tendency to recur If it lasts a few hours it is called "ephemeral fever", if a day or two, "febricula", if several days, "simple continued fever" These attacks give no clinical evidence of periodicity such as would be caused by the life cycles of a parasite in the blood, and recovery takes place without administration of quinin He spoke of a form of fever which he called "non malarial remittent" This is a fever of considerable severity, duration and mortality, lasting on an average six weeks, if not fatal earlier Dr Crombie never found malarial parasites in it and quinin pushed to doses of 90 gr daily was not only ineffectual but harmful The refusal to recognize such facts by other investigators he attributed to the "fallacy of finality"—the fallacy that every advance is final and that every fact in medicine must be brought into line with it because there is nothing beyond

Infectious Jaundice

Dr Sandwith, Cairo, Egypt, defined this disease as an acute infectious disease sometimes epidemic during the summer months, characterized by fever jaundice, enlarged liver and spleen, nephritis and some nervous symptoms It is not contagious In Smyrna it apparently has been endemic since 1837, and in Alexandria certainly since 1870 Professor Weil of Heidelberg has published four cases and since then several others have been recorded in Germany There have been small epidemics in England, the United States and China Men chiefly between the ages of 20 and 30 are most affected, and during the summer months No microbe has been discovered, but analogy points to the fact that it is insect borne The symptoms may be divided into three stages 1, primary fever, lasting from three to five days, 2, jaundice of from seven to nine days' duration, 3, secondary fever, for from seven to nine days After an incubation period of one or two days there is usually a sudden onset with a distinct rigor, the temperature rising to between 102 and 104 degrees, with general malaise and vomiting About the third or fourth day the jaundice begins with enlargement and tenderness of the liver, enlargement of the spleen and albuminuria, after which the fever usually subsides The jaundice and other symptoms then gradually disappear but in about three fourths of the cases there is a secondary attack of fever and convalescence is always slow The nervous symptoms are headache, giddiness and sleeplessness In bad cases there are somnolence, prostration, hiccough, lividity, dry brown tongue and muscular twitchings Muscular pains, especially at the nape of the neck and in the calves, are intense during the first stage and are increased by pressure, forming a useful diagnostic sign There is usually epigastric pain, which can be traced to the liver Constipation is the rule, but in severe cases there may be diarrhea During the jaundice the stools are clay colored Hemorrhages from the mucous membranes, especially epistaxis, may occur The urine contains albumin and bile The mortality in Alexandria is 32 per cent Postmortem fatty degeneration of the liver and petechiæ on the serous and mucous membranes are found

Leishmann-Donovan Bodies

Major W B Leishmann read a most important paper on "The Leishmann Donovan Body" Since these bodies were first brought to light many cases in which they have been observed have been recorded, and it is becoming more and more evident that the disease associated with their presence is by no means uncommon in the tropics Originally found in the spleen, they have since been found in the liver, mesenteric glands, bone marrow, kidneys, and ulcers involving the intestinal mucosa The parasites appear to be intra cellular and are found in large mononuclear cells which are probably macrophages In specimens obtained during life by splenic or hepatic puncture the parasites are usually found free in groups The principal symptoms noticed are 1, Splenic and hepatic enlargement, 2, a peculiar earthy pallor of the skin and in the late stages great emaciation and muscular atrophy, 3, prolonged irregularly remittent fever lasting frequently many months, with or without remissions, 4, hemorrhages such as epistaxis, bleeding from the gums, subcutaneous hemorrhages or purpuric eruptions, 5, transitory edema of the legs, 6, complications such as congestion of the lungs, diarrhea and dysentery have been frequently reported and occasionally cause death, 7, a marked mononuclear increase—an interesting point in view of the proved absence of malaria The disease is resistant to medication, especially to quinin, at all events in the later stages The symptoms are similar to those of kala azar, but it is too early to say whether the two diseases are identical The bodies appear to represent a stage in the life history of a flagellate organism resembling a trypanosome, if not belonging to that genus Recently Captain Rogers has announced in the *Lancet* that trypanosomes have developed in cultures of these bodies

The Museum

A most interesting feature of the meeting was the museum which contained a large number of remarkable exhibits, including radiographs and photographs illustrating diseases of the prostate and diseases and injuries of bones and joints, particularly Colles fracture and congenital dislocation of the hip Microscopic preparations showed the most recent work in the pathology of new growths A beautiful series of ophthalmologic and otologic drawings by Dr Ole Bull of Christiania was lent by the University of Cambridge A striking exhibit was a lifesize wax figure showing the injuries inflicted on the body and clothing by a lightning stroke

Senility and Infantilism

Mr Hastings Gilford illustrated some anomalies of growth recently described by him, which he terms "ateleiosis' and progeria," by four living specimens and a number of photographs These two disorders are of opposite natures Ateleiosis is a form of infantilism, while progeria is a form of senility Ateleiosis seems to be of two varieties asexual and sexual The asexual case shown was a man of 30, but had the height rounded figure, physiognomy and ossification of a boy of between 5 and 10 some parts being more backward than others The genital organs were like those of an infant He is still growing at the rate of about 5 cm a year The sexual case shown was a man of 38 whose height and proportions were those of a boy of 10, while he also possessed the flat, undeveloped face of a boy But he was sexually mature and had a family of seven, three of whom were dwarfs One of these, a boy of 12 was shown because he served as a connecting link between the two varieties, for while he was the son of a sexual ateleiosis, he himself was an instance of the asexual variety for he was cryptorchid and his genitals were infantile Progeria was represented only by photographs, all three of the subjects being dead All three presented the external and internal signs of old age One died from apparent senile decay at 17 another at 18 and the third, a less marked case at 43

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer]

Myocarditis

Stevens in *Amer Med* , discusses the diagnosis and gives the following outline of treatment of myocardial disease

GENERAL TREATMENT

'Attention to the minutiae of life is of the utmost importance Each individual must be studied as regards the state of the arteries, the character of the pulse, the digestive powers, the existence or absence of any constitutional vice and the actual condition of the heart, so far as this can be determined " Attention should be directed to proper exercise It is many times unnecessary for the patient to give up his occupation, but the sum of his exertions should in no wise fatigue the heart Fret and worry frequently have as baneful an effect on the heart as actual physical exertion Graduated exercise is indicated except in those cases where it is followed by palpitation, irregularity, pain, or pronounced dyspnea, in which cases absolute rest should be prescribed In these cases massage is useful since it gives the patient exercise without any additional strain on the heart

DIET

Avoid rich foods, bulky foods, and foods which induce flatulence Prohibit eating between meals Over eating and copious drinking at meal time must be avoided Water may be allowed between meals freely enough to secure free elimination of waste products Tea and coffee should be used very sparingly, better not at all Alcohol and tobacco should be dispensed with Avoid all excesses Avoid constipation Gouty diathesis and syphilis should receive appropriate treatment

SPECIAL TREATMENT

He recommends strychnin in doses of 1/60 gr to 1/30 gr (1 mg to 2 mg) two or three times a day If anemia is present iron and arsenic can be advantageously combined with strychnin The nitrites and iodids are of especial value when there are angioid pains, high arterial tension, and cardiac asthma The iodids are contraindicated where there is advanced arterial disease and chronic nephritis Digitalis must be used tentatively, in small doses and best when the degeneration is in its early stages It is well to guard against its constricting influence on the arterioles by combining with either nitroglycerin or sodium nitrite In some cases strophanthus is more efficacious than the digitalis and in others caffein sparteın or cactus may be tried

A Non-toxic Preparation of Iodin

Wingrave, in the *Lancet*, states that after considerable experimentation with different preparations of iodin he has found the following formula can be given for considerable periods without causing symptoms of iodism while exercising its specific effects on lymphatic enlargements

℞	Iodin	gr xl	2|65
	Acidi tannici	ʒi	4|
	Alcoholis (90 per cent)	ʒixss	38|
	Syrupi q s ad	ʒxix	76|

The iodin is dissolved in the alcohol, the tannic acid and 30 c.c of syrup are added, the solution is heated to just below the boiling point until it affords no evidence of free iodin with the starch reaction (about 20 minutes), then cooled and the remainder of the syrup is added with flavorings Each dram contains two grains of iodin Dose from one half dram to two drams in water or wine before meals according to age The iodin is in loose chemical combination with the tannic acid, and is readily given up to the tissues after absorption, and consequently there is no chance of any local intestinal or gastric irritation The author has found that children tolerate it well and it has proved of value in cases of chronic lymphadenitis associated with or independent of, enlarged tonsils and adenoids especially when the enlarged glands persist after tonsillotomy It is further indicated in those cases of enlarged faucial and pharyngeal tonsils where operation is contraindicated or objected to It has afforded gratifying results in atrophic rhinitis especially when combined with arsenic

Enuresis.

Lewis, in the *British Jour of Children s Diseases*, states that he has observed that children fed on starchy foods pass a larger amount of urine than normal, and when their starchy food is cut off this symptom disappears It is the same with victims of enuresis In most cases a rigid antidiabetic diet removes the symptoms in a few days During the cure, starchy foods may usually be allowed for breakfast without 'accidents" occurring at night As to results the author states "Without any other treatment hospital cases are relieved at once, and finally cured when fed on the ordinary hospital diet In private cases small quantities of bread or cake given at dinner or tea will cause bed wettings to recur"

Simple Diarrhea

Earp, in the *Med Council*, discusses the therapeutics of this common condition, and believes that rational curative therapy depends on four cardinal factors 1 Cleanse the alimentary canal of all offensive material and relieve pain 2 Antisepsis 3 Establishment of rational dietetic measures 4 Rest in bed

PROPHYLACTIC MEASURES

The author states that perhaps there is no disease which holds a closer relationship to errors of diet than this one If the following rules could be more carefully observed many cases of diarrhea would be averted Take food in moderate amounts, eat slowly, thoroughly masticate the food, and thus give due regard for the first process of digestion, let the mind be free from care or anxiety during the meal and rest a few minutes before and after

Care must be taken to make a proper selection of food, for the reason that decomposed material, fermented products and and impure water may produce a catarrhal condition, followed by diarrhea

TREATMENT

Cleansing the Intestinal Canal—When portions of undigested food are found in the stools it is but reasonable to suppose that others remain in the canal, giving sufficient indication for the administration of salines to free the alimentary tract of all offending material (It is also recommended to give a liberal dose of castor oil, to which a small dose of tincture of opium may be added, if much pain is present, to accomplish the same purpose as the saline) During the time of cleansing the canal it is important that very little should be given in the way of diet, and that a light diet should be continued until all symptoms have disappeared In all cases of diarrhea there is always bodily exhaustion, and likewise impairment of the digestive function Therefore, predigested foods or foods easily digested must be used with or without any of the drugs known as digestants Food should be chosen which can in the main be digested in the stomach and leave as little residue as possible Opium should only be given if necessary for the pain, and then sparingly

Of the astringent and antiseptic drugs the author recommends the sulfocarbolate of zinc, or salicylate of bismuth, and also guaiacol benzoate Under no circumstances should the bowels be locked up or permitted to be inactive any length of time

During the early stages rest in bed is of prime importance

Dysmenorrhea

Hammond, in *Amer Med*, states that the action of gelsemium in the treatment of dysmenorrhea in patients in which repeated careful examination of the pelvic organs fail to show any abnormalities or pathologic lesions, has been very satisfactory Ten drops of the tincture should be taken three times daily, begun each month seven to ten days previous to the beginning of the flow In a large proportion of cases this plan of treatment will afford absolute and marked relief

Infantile Convulsions

Merck's Archives recommends the following

℞	Potassii bromidi			
	Sodii bromidi			
	Ammonii bromidi			
	Calcii bromidi, āā	gr xv	1	
	Tr belladonnæ	m vi		3
	Syrupi aurantii floris q s ad	℥iii	90	

M Sig One to four teaspoonfuls, according to age, every two hours

If indigestible food has been taken give an emetic and a purgative A hot bath is a valuable adjuvant

Chorea

Chapman, in the *Brooklyn Med Jour*, concludes there is but one drug which has met with any success in the treatment of this disease, and that is arsenic Of the preparations of this drug Fowler's solution has given the most universal satisfaction Some cases tolerate Pearson's or Donovan's solution better Fowler's solution is best administered, beginning with small doses and gradually increasing up to the point of tolerance Some observers say up to the full physiologic effect, but the author considers this not only unnecessary but believes that the damage done to the digestive organs is certainly detrimental to the patient's general condition, which is a point that should receive our first attention He also discountenances the use of the drug hypodermically, and believes the pain and annoyance from the injection greater than the good accomplished

It is best to give Fowler's solution well diluted to prevent gastric irritation and likewise to increase the amount of liquids ingested The increased fluids prevent the extreme concentration of the urine and lessens the irritation of the kidneys Medicinal diuretics are seldom necessary, and when indicated small doses of acetate of potash may be dissolved in milk and administered without the patient's knowledge

The anemia is best treated by some preparation of iron given in small doses and well diluted The author prefers the citrate of iron and quinin dissolved in sherry wine If the digestion is good and the stomach will tolerate it, the syrup of the iodid of iron with the compound syrup of the hypophosphates makes an excellent combination

For insomnia and much restlessness he recommends the use of chloral hydrate This drug is well borne by children, and from five to ten grains in a cup of hot milk usually induces a good night's sleep

Coexisting disorders, such as malaria, rheumatism, etc, should receive appropriate treatment Quinin and the salicylates are well borne by choreic patients Any source of reflex irritation, such as adenoids, phimosis, etc, may receive palliative treatment, but surgical procedures should be avoided until the choreic symptoms have subsided

The following is recommended for chorea in rheumatic patients

℞	Sodii salicylatis	ʒii	8
	Potass iodidi	ʒi	4
	Pepsini (scale)	ʒii	8
	Syrupi sarsaparillæ comp	℥i	30
	Aquæ dest q s ad	℥iii	90

M Sig Teaspoonful in water three times a day

Olive Oil in Affections of the Stomach.

It is to be noted that olive oil is occupying a more useful and frequent place in practical therapeutics and we have read with interest the abstract of Cohnheim's article in the *Zeitschrift f klin Med*, in which he tells of another use of this drug and claims excellent results "Cases of gastric dilatation which are due not to organic obstruction, but to pyloric spasm secondary to an ulcer, fissure, or erosion, may be cured or greatly improved by the introduction of large quantities of olive oil through the stomach tube About 3½ to 5¼ ounces (100 to 150 c c) of warm oil are introduced when the stomach is empty In organic stenosis, and at first in spastic cases, previous irrigation of the stomach is required If, nevertheless, pain recurs later in the day, another 50 c c of oil should be given before bed time"

MODE OF ACTION

The oil acts mechanically as a lubricant, so that even solids glide through the altered pylorus Even in extreme pyloric stenosis oil enters the duodenum and is absorbed. It not only acts locally by relieving the pain and spasm, but improves the general condition

INDICATIONS

The following conditions have been improved by the use of the oil Organic pyloric stenosis, with secondary gastrectasis, cases of incomplete pyloric and duodenal stenosis, which are characterized by continuous hypersecretion, and the occurrence of pyloric spasm several hours after meals are also cured or improved In carcinomatous stenosis the oil prevents or relieves pyloric spasm In early cases, oil may prevent the occurrence of secondary gastric dilatation Or it may be given after the disappearance of the symptoms to prevent relapses The treatment should be continued for several weeks Cases of pyloric ulcer, with or without hyperchlorhydria, and with colic like pain occurring from 1 to 4 hours after food, are cured by olive oil or almond oil emulsion, if there are no complications, such as perigastritis

METHOD OF ADMINISTRATION

The oil or emulsion may be given by the tube or drunk a half to one hour before food, the doses are a wineglassful before breakfast, and two tablespoonfuls at mid day, and in the evening The almond oil emulsion should be freshly prepared by rubbing up a tablespoonful of sweet almonds in a mortar, pouring a cup full of boiling water over the powder, and passing the mixture through a fine sieve Sufficient water is added to make about eight ounces of emulsion, which is sweetened and drunk warm about one half hour before meals The diet should be regulated and all vegetables given as purées

Medicolegal.

Evidence of a Hope of Recovery—The Supreme Court of Louisiana holds, in the homicide case of State vs Gianfala, that, though the wounded man said he thought he was going to die, yet, if he asked the opinion of a physician, and, on his advice started on a journey to a distant city to have himself operated on, as being his one chance of recovery, his statements would not be admitted as dying declarations, it not appearing that he was not without some slight hope of recovery

Right of Physician to Enter Premises to Treat Lodger—The Supreme Court of Iowa says, in the case of Watson vs Dilts, that it has no doubt that a boarder and lodger may have an implied license to have a physician enter on the premises in case of illness so that if one went to the house for the sole purpose of treating such boarder and lodger in a strictly professional capacity he ought not to be held a trespasser But an implied license to enter the premises of another contemplates an entry only in the usual way, and at a reasonable time

Use of Sidewalks by Lame and Aged—Care Required.—The Supreme Court of Michigan says, in the personal injury case of Harden vs City of Jackson, that there is no doubt that the legislature authorized sidewalks for the use of the lame and aged as well as for the able bodied and young, but we know that the former classes should, and usually do, use greater care than the latter find necessary A man walking on crutches knows the common method of building sidewalks He knows that edges of the boards decay and knots drop out, and instinctively he learns to avoid putting his crutches in holes or cracks The court thinks it is not negligence for a city to use its plank walks, although they have cracks and knot holes through which a cane or crutch would go, acting on the expectation that the traveler must know that they are practically unavoidable, and are common to all sidewalks, long before they are sufficiently worn to justify pulling them up and building anew The city has a right, in the maintenance of its walks to expect a reasonable degree of care from all persons, and, when its walks are safe for the ordinarily prudent use, there is no negligence. If there were no walks the pedestrian might still fall, and the crutches of the infirm go down in holes made by animals, or in soft places An accident from such a cause would be a casualty So, too, there may be casualties on walks The cities are not insurers of those who walk on sidewalks, and, even though injured without negligence on their part, the same is no more than a casualty, if the walk is as good as such person has a right to expect

Drunkenness and Delirium Tremens as Defense to Crime.—The Supreme Court of Alabama says, in Parrish vs State, that while delirium tremens of itself is not necessarily a complete defense, or does not wholly excuse the person who commits a crime while in that condition, yet it may palliate or extenuate the crime and punishment, if the disease, drunkenness, or delirium tremens has gone to such an extent as to deprive the person of the capacity to have entertained the intent necessary to constitute murder Hence voluntary drunkenness, though not carried to the extent of delirium tremens, may palliate a crime, if a necessary element of the crime is specific intent In order to constitute murder in the first degree, willfulness, premeditation, and deliberation must concur with malice, and if drunkenness or delirium tremens has gone to such an extent as to paralyze the mental faculties, and to render the accused incapable of forming a design, which is a necessary ingredient of the crime, it would be a pertinent inquiry for the jury in determining the degree of the homicide and of the punishment to be inflicted And there being some evidence that the accused in this case was suffering from delirium tremens at the time, he had a right to have the jury pass on its credibility and sufficiency, and as to whether it was sufficient to prevent his being capable of forming an intent and of entertaining the necessary malice or intent to constitute murder Furthermore, on the tendencies of the evidence in this case, it could not be affirmed, as a matter of law, that delirium tremens, even if induced by voluntary drunkenness, would not support the accused's plea of not guilty by reason of insanity A person suffering under or afflicted with delirium tremens, for the time being, may be as absolutely insane as an idiot or a maniac

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia

August 20

1 *Laceration of the Cervix J M Baldy
2 A Case of Malignant Adenoma of the Liver George L Peabody
3 *Cervical Ribs in Man D N Eisendrath
4 *The Value of Non operative Local Treatment in Gynecology Willis E Ford
5 The Modern Treatment of Pulmonary Tuberculosis Frank Warner
6 Plea for a More Just Judgment of Narcotic Drug Users George E Pettey
7 Open Oral Questions Wm S Lederer
8 Meteorism in Pneumonia, Its Prognostic Importance Heliodor Schiller

1 **Laceration of the Cervix Uteri.**—Baldy protests against the tendency among obstetricians to repair lacerations of the cervix primarily The objections are enormously swollen lips, so that a proper adjustment of the surfaces is difficult, and the subsequent shrinkage of the tissue under the sutures, which is of such an extent as to be uncontrollable both for purposes of apposition and for the prevention of the invasion of infection between the lacerated surfaces The effect of an operation on the morale of the patient at such a trying period is by no means the least of the objections The treatment for recent lacerations of the cervix, says the author, remains rigid local cleanliness, except when there is a sufficient hemorrhage to demand a ligature When non infection can be insured, and when the torn lips are not unnecessarily disturbed by the careless use of the nozzle of the syringe, spontaneous healing of these lacerations may be expected to a greater or less degree and what remains when nature is through with her work will be of a healthy character will give no future trouble and will need no surgical interference Stop the active discharges from the uterus keep the eroded surfaces free from their own discharges and they will soon disappear Baldy does not concur in the belief that lacerations of the cervix produce carcinoma In twenty years' work he has not seen a single case of cancer develop in a laceration of the cervix which he refused to repair Many arguments are brought forward in Baldy's article bearing on the latter proposition, but are too numerous to be abstracted

3 **Cervical Ribs in Man**—Eisendrath records a case of cervical rib discovered accidentally in a woman, aged 56, who consulted him with reference to a tumor of the breast Thirty

four cases of cervical rib are recorded in the literature The chief clinical interest of this condition is the relation of the rib to the brachial plexus and to the subclavian vessels In some cases it may give rise to a pulsating tumor just above the clavicle and be diagnosed as an aneurism In others the compression of the artery causes thrombosis of the distal portion, with resulting discoloration, coldness or even gangrene of the fingers Symptoms of pressure on the brachial plexus vary from numbness and tingling in the arm, to severe pains down the arms or in the fingers alone In some cases electric treatment or elevation of the arm gives relief In others resection of the cervical rib is necessary

4 —See abstract in The Journal, xlii, p 1585

Medical News, New York

August 20

9 *Technical Errors in the Use of Rubber Gloves Howard D Collins
10 Interstitial Gingivitis or Scorbutus Eugene S Talbot
11 Some Weather Observations in the Adirondacks L Brown
12 The Biological Interpretation of Cancer Alexander Spingarn
13 Appendicitis, Pathology and Surgical Treatment D N Eisell
14 Beginning General Paresis Its Recognition and Management Charles Lewis Allen
15 *The Bacteriology of Panophthalmitis Richard N Johnston
16 Autointoxication of Gastrointestinal Origin Clifton Mayfield
17 Bacteriuria with Special Reference to Coli Bacilluria Arthur E Elliott
18 *The Uses of X-ray in Medicine and Surgery Russell H Boggs

9 **Technical Errors in the Use of Rubber Gloves**—Collins says that often it is possible during major operations to see gross errors of technic in the manner of using gloves, errors not so much of carelessness, but of lack of instruction and thought on the subject The manner of putting on the glove is often faulty in that it counteracts the very purpose for which the glove is worn, that of covering up an unsterile object—the hand—with one that is sterile, the glove The best and most pleasant use of gloves comes from putting them on dry with sterile starch or lycopodium as a lubricant Collins prepares his gloves in the following way A wide mouthed bottle, filled with pulverized starch and provided with a piece of gauze tied over the mouth in a single layer, is sterilized in a live steam sterilizer At the same time several towels are sterilized by live steam in the usual manner The gloves are then turned wrong side out, placed in a wire cage and submerged in clean water in the ordinary instrument boiler Care should be taken that all of the glove is filled with water and the air driven out Two pair of long dressing forceps or sponge holders should be put into the boiler with the gloves The gloves are allowed to boil for from five to ten minutes, when they are taken from the cage and allowed to drain hastily With the sterile forceps the gloves are placed on one of the sterile towels, spread out flat, and another sterile towel laid over them If all the free water has been allowed to drain from the gloves, a little stroking and patting of the upper towel will thoroughly dry the outer surface (really the inside, for the gloves were turned wrong side out) in a few minutes The upper towel is then turned back and the gloves, both back and palm, thoroughly dusted with the sterile starch from the bottle With one pair of forceps the edge of the wristband is lifted and the other pair of forceps introduced into the glove until the blades grasp the web between the middle and ring fingers, by drawing on the interior pair of forceps and turning the cuff over with the other pair, it takes *but a moment to reverse the palm* or hand portion of the glove To reverse the fingers, grasp two diametrically opposed points of the edge of the wristband with the two pair of forceps, and twirl the glove two or three times about its transverse axis, this closes the orifice of the glove and imprisons some air in the palm Lay the glove on a sterile towel, press on the balloon part of the glove with another sterile towel, and the compressed air causes the fingers to be everted with a rush Dry the outer surfaces with a sterile towel Place the *gloves in a sterile towel* with a piece of sterile gauze between the gloves and on top Fold and pin the towel They can be kept several weeks without deterioration To put on the gloves for use cleanse the hands and dry them on a sterile towel, open the package of gloves, with the gauze pick up a glove and thrust a hand into it The gloved hand picks up the second glove with the piece of gauze and the other hand is clad The pieces of gauze *prevent contact* of any part of the skin with the outer surface of the glove If an adjusting of the finger tips is necessary this is not done until both hands have been clothed This method insures absolute sterility of the gloves, inasmuch as they have not come in contact with any object that was not sterilized

15 **Bacteriology of Panophthalmitis**—Johnston confirms the findings of previous investigators that Fraenkel's pneumococcus is the most frequent cause of panophthalmitis While in some cases a mixed infection of pneumococcus and staphylococcus or streptococcus has been found, the pneumococcus is probably the essential etiologic factor

18 **The X-Ray in Medicine and Surgery**—Boggs classifies the cases which are amenable to *x* ray therapy under four heads 1 *Those cases which respond readily* and, as a rule, do not need surgical interference, such as lupus, epithelioma of the face, acne, eczema and tuberculous glands 2 Those which should be treated for a short time, the mass removed and then continue *x* ray treatment to prevent recurrence, namely, carcinoma 3 Those cases of carcinoma which are considered inoperable should be treated to prolong the patient's life and make him more comfortable 4 Many cases of tuberculosis in the initial stage respond to *x* ray treatment But here the *x* ray should only be considered a useful adjunct

New York Medical Journal

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19 The Management of Genital Sores E Wood Ruggles
20 *The Best Method of Operating to Affect a Radical Cure of Senile Hypertrophy of the Prostate Gland Orville Horwitz
21 The Finsen Light Treatment Rollin H Stevens
22 *The Etiology and Treatment of Arteriosclerosis O T Osborne
23 *Talma's Operation for Cirrhosis of the Liver L B McBrayer
24 Renal Insufficiency A M Crispin
25 Surgery Under Difficulties in East Africa Samuel Gurney

20 **Senile Hypertrophy of the Prostate Gland**—Horwitz studied 150 cases with the view of determining the best method of operating for the purpose of effecting a radical cure of senile hypertrophy of the prostate gland, and believes that the following conclusions are justifiable 1 A routine method is not applicable, every case is a law unto itself 2 The dangers attendant on daily catheterism are greater than those of a radical operation performed at the onset of the symptoms caused by the obstruction 3 The proper time to perform a radical operation is reached as soon as it becomes necessary to resort to daily catheterism 4 The Bottini operation is of great surgical value It is applicable to a large percentage of cases In selected cases it is the safest and best method of relieving the obstruction caused by a prostatic hypertrophy When stone in the bladder is associated with prostatic enlargement litholopaxy may be performed in conjunction with a galvanocautery prostatotomy 5 A complete prostatectomy is justifiable if performed early, before secondary complications have supervened The mortality from such operation varies between 5 and 7 per cent 6 In feeble elderly patients with long standing obstruction and secondary complication *the mortality* ranges between 15 and 18 per cent If the bladder is hopelessly disabled suprapubic drainage is the only justifiable operation 7 In 90 per cent of all cases the gland can be removed readily by means of a median perineal incision The perineal operation recommended by Bryson is *the operation of choice* 8 A suprapubic prostatectomy is safer if combined with perineal drainage 9 Partial suprapubic prostatectomy is indicated in cases where a valvelike lobe exists which interferes with urination, or where there is a partial hypertrophy of one of the lobes A complete suprapubic and perineal prostatectomy combined is wisest where there is enormous *hypertrophy of the three lobes* especially when associated with tumor formation giving rise to a stenosis of the prostatic urethra 10 Perineal prostatectomy is best suited for those cases where the enlargement of the lateral lobes has a tendency to progress toward the rectum *to obstruct the*

urethra, or to project backward into the bladder 11 Prostatectomy always is attended with more danger than the Bottini operation and convalescence is more prolonged In suitable cases the latter operation, therefore, is the one of choice

22 **Etiology and Treatment of Arteriosclerosis.**—Osborne believes that while old age, nervous strain, over eating, abuse of alcohol, etc, are *contributing* causes in the production of arteriosclerosis, the essential factor in the etiology of this condition may be traced to some error of secretion of the so called ductless glands After studying the glands that furnish secretions modifying blood tension, he throws out the hypothesis that a diminution of the thyroid secretion or an increase of the suprarenal secretion, or vice versa, may be the essential cause of *arteriosclerosis* There may be too much suprarenal secretion or too little thyroid secretion at any age but old age with its normal high arterial tension is probably due to an absence of thyroid secretion and the consequent, at least relative increase of suprarenal secretion All the other contributing factors in the production of arteriosclerosis are operative in a *similar manner* and any treatment to be successful must aim to diminish the high blood pressure This can be accomplished by thyroid extract in small doses if we believe there is evidence of diminished thyroid secretion, and it must be remembered that any small dosage of iodids will stimulate the thyroid gland to greater activity and hence the long known value of this drug in arteriosclerosis The prohibition of all drugs and agents that have a contracting influence on the blood vessels will be followed by the best result. The great value of rest especially mental must not be forgotten The moderate use of tobacco after thirty years of age may be of benefit to these hypertension cases rather than otherwise It is a narcotic to the brain which removes a certain amount of nervous tension and it is a vasodilator which in moderate amount will not weaken the heart In excessive amounts however it will precipitate a cardiac insufficiency In cases of arteriosclerosis without kidney or liver lesion in a patient of sixty years of age or more it is quite possible that small doses of alcohol especially at night may cause sufficient vasodilation to produce some bettering of symptoms but this same improvement can be obtained by nitroglycerin in small doses even as little as 1/400 of a grain three or four times a day Osborne concludes by throwing out the suggestion that it is possible that in the future one of the suprarenal glands might be removed or its artery tied in gout and *arteriosclerosis*

23 **Talma's Operation**—McBrayer reports a case of cirrhosis of the liver occurring in a male patient aged 57 years in which he did a Talma's operation the operation proving successful Prior to the operation the patient was scarcely able to walk there was marked ascites and he was very much emaciated Now he is up all the time, walks anywhere on a level and up and down stairs his jaundice has disappeared and he has gained twenty pounds in weight with *two pounds* of his normal weight. The ascites has not required paracentesis for over three months The only medical treatment he has had is 15 grains of compound jalap powder, as needed and 1/30 gr strychnin nitrate three times a day

Medical Record, New York.

August 20

26 A Possible Cause of High tension Pulse in Nephritis. W H Thomson
27 *Treatment of Rupture of the Posterior Urethra. Weller Van Hook.
28 Primitive Medicine. E J Kempf
29 *Alcoholism and Drug Habits Their Pathology and Treatment. K. A. Enlind

27 **Rupture of the Posterior Urethra.**—The study of the literature of injury of the posterior urethra by external violence, says Van Hook, leads to the unavoidable conclusion that primary operations should be resorted to whenever possible under a technic somewhat as follows In the lithotomy position, with the grooved staff introduced through the urethra into the perineal tissues, immediate incision is made beginning a half inch in front of the rectum and extending forward toward the scrotum an inch to an inch and a half While the skin may be divided freely, the deep tissues are only to be incised beneath the sound at a point posterior to the bulb of the urethra The bulb of the urethra may then be drawn forward by means *of a blunt hook*, and the ends of the urethra must be sought The distal portion of the urethra is found at once because the sound passes through it. If the finger be passed over the deep surfaces of the wound, smooth mucous membrane may be felt guiding the operator to the proximal end of the tube With full exposure of the wound surfaces the proximal end of the urethra may be *found* by probing In *a recent* case a large probe must be used, or even a catheter but if cicatrization has occurred a fine probe or a grooved director must be used Van Hook's method of palpation which is original with him, is as follows By palpation with the volar surface of the finger the urethra can be rolled under the pubic arch as a somewhat *flattened cylindrical* mass This mass is fixed by the fingers *against the bone*, and a *longi*tudinal incision is *made* through the middle of it The finger is then introduced into this opening and the slippery mucous membrane can be recognized without difficulty The method may be carried out without the aid of inspection, if desired This is an advantage in cases where hemostasis is difficult When defects of the urethra are great enough to prevent the ends from being approximated without *too great tension* several alternatives are open for consideration 1 The method of Ljunggren, which can not, however be recommended as a routine method It makes too great demands on the regenerative power of the urethral tissues increases the period of healing and probably heightens the danger of infection 2 The parts of the urethra may be loosened from their bed 3 The method of Ekehorn an autoplastic operation The after treatment of these cases consists in the use of urinary antiseptics the administration of large quantities of water free drainage carried out according to the views of the operator and the passage of sounds to prevent the contraction of scar tissue Van Hook believes that the use of a catheter *a demeure* is harmful rather than beneficial As a *rule, if the* bladder needs immediate drainage by a tube, it is better to leave a very large catheter or tube in the bladder to pass out of the perineal wound which is left almost without transverse suture The use of the permanent catheter in the presence of infected urine often produces a suppurative urethritis that may result in permanent damage to the canal

29 **Treatment of Alcoholism and Drug Habits**—The author's treatment consists of thorough elimination and the stimulation of the nervous system by rest fresh air, exercise and diet. Large doses of strychnin and drugs of a similar class should be avoided as they have a tendency to aggravate the nerves Medicines of nerve tissue building properties should be used in large and frequent doses In case a heart stimulant should be required liberal doses of spartein sulphate can be used with perfect safety His personal experience with the various preparations of ergot has been very unsatisfactory As a curative agent ergot is a failure as an aid in restoring the vascular system to a normal condition after the addiction has been cured ergot is of material benefit

Cincinnati Lancet-Clinic.

August 20

30 Prescriptions of Fifty Years Charles T P Fennell
31 Face Blemishes F E Wisecup
32 Acute Lacunar Tonsillitis Frank H Lamb
33 Couple of Simple Points in the Diagnosis of Enlarged Prostate. C M Harpster

Archives of Ophthalmology, New York.

July

34 *Empyema of the Frontal Sinus Orbital Complication Treated by Superheated Steam David Dennis
35 Choroidal Hemorrhage Following Cataract Extraction Alex Quackenboss
36 Trachoma Among the Ancient Greeks and Romans C A Fukala
37 *Extirpation of the Lachrymal Sac After Injection of Paraffin Frank C Todd
38 A New Formation of Elastic Tissue in the Anterior Chamber of the Eye Alfred Wiener
39 Hereditary Optic Atrophy Arnold Knapp
40 Severe Pseudo-membranous Conjunctivitis in an Infant Presumably Due to the Influenza Bacillus Arnold Knapp
41 *Parinaud's Conjunctivitis F H Verhoeff and G S Derby
42 Fibromyoma of Bulbar Conjunctiva Kenneth Scott.
43 The Relation Between the Ocular Muscles and Refraction S M Payne

34 **Empyema of the Frontal Sinus and Superheated Steam**—Dennis emphasizes the importance of conservative treatment in the orbital complications of empyema of the frontal sinus Steam is safe, thorough, reaching all points of the sinus With proper precautions this will leave a minimum amount of disfigurement The operation is comparatively easy to perform It is not applicable to cases of necrosis, or where the disease has extended to the brain It may be used to advantage combined with the radical operation Any apparatus can be utilized that will insure high temperature The most available would be one of the forms of steam atomizers used for throwing carbolic acid spray There should be a pipe leading into a small additional metal chamber to one side of the atomizer, under which a second alcohol lamp is placed, so that the steam may be still further heated and freed from moisture From this second chamber a rather heavy rubber hose should lead to a small metal pipe A small silver eustachian catheter answers the purpose very well This should be passed through a large wooden handle so that the heat will not burn the fingers of the operator The tissues around the opening must be protected from the steam, and a paste made of powdered asbestos may be used This paste is packed around the tissue and is far superior to cold compresses The rubber pipe should be closed by pressure while taking the tip in and out of the sinus otherwise the tissues will be burned

37 **Extirpation of the Lachrymal Sac**—Todd describes his method of extirpating the lachrymal sac after its injection with paraffin as follows After the patient has been prepared properly the contents of the sac are pressed out and the sac is thoroughly and repeatedly irrigated with boric acid solution and with argyrol or another antiseptic By means of a suitable syringe paraffin, at a melting point of 110 is injected through the lower canaliculus into the sac until it is completely filled This at once hardens and the sac is outlined perfectly An incision is made in the skin over the sac in its long axis extending from one fourth of an inch below the dome down toward the lower extremity of the swelling The sac is exposed, can be seen easily, and is dissected out by means of a knife, dull instruments and scissors It should be followed well down into the duct if it is buttonholed no damage is done as the paraffin is hard and will not escape Any necrosed bone found should be curetted and drainage will take place into the nose The skin is sutured and the canaliculi destroyed by cauterization By following these directions no large vessels will be cut and the entire incision may be made below the tendo occuli If the latter is cut it should be sutured When a general anesthetic is administered the patient's head may be dropped over the end of the table as in adenoid operations to allow the hemorrhage to run out of the nostrils and prevent its entrance into the larynx If cocain is used some should be injected into the sac previous to the injection of paraffin and before making the incision the skin is anesthetized by the infiltration method in which case adrenalin also may be used

41 **Parinaud's Conjunctivitis**—The authors add one more case of this disease to those already recorded The symptoms were typical of the disease as described by Parinaud All the outgrowths were excised and ichthyol ointment was applied externally to the swollen glands and liquor potassi arsenitis minims 8, was administered internally three times a day After three weeks the process began to retrograde, the vegetations ceased forming the lid returned to nearly normal size and the glands subsided without showing fluctuation Three months after the patient was first seen the eye was practically well, there was still a slight degree of ptosis and some induration in front of the ear The scars resulting from the excisions are visible but have produced no apparent cicatricial contraction The authors made a very careful bacteriologic and histologic examination and summarize as follows The lesion consists essentially of marked cell necrosis in the subconjunctival tissue with extensive infiltration of the latter with lymphoid and phagocytic epitheloid cells This is accompanied by chronic inflammatory reaction of the deeper tissue leading to the process of organization and the production of new fibrous tissue The agent which produces the local lesion is non pyogenic, suppuration, when its does occur, probably being due to a secondary infection The infection is, in all probability, not due to any of the known micro organisms The theory of animal origin is founded on insufficient evidence The most efficient treatment consists in the early and repeated excision of the polypoid vegetations

Annals of Surgery, Philadelphia

August

44 Observations on the Results in 125 Cases of Sarcoma Andrew J McCosh
45 The Combined Transverse and Longitudinal Incision in Laparotomy Lewis A Stimson
46 *Peptic Ulcer of the Jejunum A W Mayo Robson
47 *The Treatment of Post operative Vomiting by Gastric Lavage Charles S White
48 Primary Spasm and Hypertrophy of the Pyloric Sphincter, and Resultant Enormous Dilatation of the Stomach Michael J Rebert
49 Congenital and Infantile Omentocele on Same Side Separated from Greater Omentum and Peritoneal Cavity Jacob Frank and Wm T Eckley
50 Unsuspected Lesions in Movable Kidneys Discovered During Nephropexy Frank E Taylor
51 Transverse Ectopy of the Testes Albert Ashton Berg
52 Osteomalacia in the Male Thomas A Davis and D J Davis
53 Physiological Salt Solutions Frank S Mathews

46 **Peptic Ulcer of the Jejunum**—Robson reports a case of peptic ulcer occurring in the jejunum three years and four months after gastro enterostomy, which he treated by performing an enterectomy and Roux' operation The patient made a complete recovery

47 **Treatment of Post-Operative Vomiting by Gastric Lavage.**—White's method is based on the etiology of post operative vomiting, namely, that during anesthesia there is a condition of atony of the stomach walls, together with an exudate of chloroform or ether into the stomach, acting as an irritant, and there is formed in their presence an increased amount of toxic substances The lavage is performed immediately after the anesthetic is stopped and before the patient leaves the table The stomach tube required is one of the usual length, size and moderately stiff, one eye in the extreme end, the second half an inch from the end, and the third an inch from the end, but opposite the second No pump or bulb is necessary and the rubber funnel usually attached should be replaced by one of glass While the patient is thoroughly under the anesthetic a mouth gag separates the jaws, the head resting on the occiput The tube is inserted well back against the pharynx and gently pushed down into the esophagus until the end enters the stomach The occasional esophageal spasm is best overcome by steady gentle pressure Salt solution or sterile water is poured into the funnel, held about two feet above the patient, until a pint and a half or two pints are used, then the funnel is inverted close to a bucket on the floor at the right of the table, and at the same time the patient's head should be rotated strongly toward the right This process should be repeated once or twice or until the fluid returns clear In removing the tube from the mouth it should be pinched tightly until it is withdrawn so the fluid it may contain does not flow back into the mouth Although this method has not abolished post operative vomiting, it has lessened it to a very great extent It is essential that the patient should be well under the anesthetic at the time the tube is inserted There are three conditions in which this prophylactic treatment is indicated 1 In cases where there has been insufficient time to prepare the patient properly 2 In cases where the anesthetic lasts an hour or more 3 In cases where the patient previous to operation, has suffered with attacks of nausea and vomiting or chronic gastritis

Journal of Medical Research, Boston

August

54 *Studies on the Tuberculin Reaction E L Trudeau F R Baldwin and H M Kinghorn
55 The Production of Hemolytic Serum by Injecting Animals with Different Constituents of Erythrocytes P A Levene.
56 The Biological Relationship Between Proteids P A Levene
57 The antihemolytic Action of Some Cells and Tissue Constituents P A Levene and E R Baldwin
58 Action of Pepsin Digestion on Tuberculin H M Kinghorn

59 Studies on Tuberculous Serums and the Bacteriolysis of Bacillus Tuberculosis. E. R Baldwin
60 Antituberculin or Tuberculin—Precipitin Serums E R Baldwin
61 Differences in Precipitins Produced by Tubercle Bacilli E R Baldwin
62 Effect of Bacillus Mycoides XIII on Local Tuberculosis H M Kinghorn
63 The Biochemistry of the Bacillus Tuberculosis P A Levene.

54 **The Tuberculin Reaction.**—The authors have carried on a series of experiments having as their object the better understanding of the nature and specificity of the tuberculin reaction The subjects for inquiry which prominently suggested themselves were 1 Can the diagnostic use of tuberculin scatter the disease and produce new tuberculous foci? 2 What relation has healed or eradicated tuberculosis to the reaction? 3 Is the reaction always dependent on the presence of specific tubercle? 4 What relations have the alleged reactions from other substances to the true tuberculin reaction? Is the reaction due to enzymes like trypsin? 5 How long after infection with tuberculosis does reaction susceptibility begin? 6 What constituent of the tubercle bacillus induces reaction susceptibility in the animal? The conclusions arrived at in answer to these queries are as follows 1 In localized corneal tuberculosis of the rabbit's eye no spread of the disease could be observed after the use of tuberculin injections On the contrary, a favorable absorptive influence was noted on the diseased focus 2 Extirpation of a tuberculous focus was followed by loss of reaction susceptibility in the one rabbit where the operation was thorough 3 No signs of local reactions were found about the capsules containing tubercle bacilli, except when imperfectly sealed The temperature elevations gave no evidence of susceptibility to tuberculin resulting from the presence of bacilli in the filter capsule Hence it is evident that either the poison contained in the bacilli was not diffused through the capsules in sufficient amount to produce susceptibility in the surrounding tissue, or, if so diffused, did not remain in store in the tissues, as has been assumed to be true of tubercles containing actual living or dead bacillus In either case the presence of tubercle bacilli or their substance in the tissues appears necessary to a true tuberculin reaction Moreover, the nuclein substance of tubercle bacilli will not pass through a filter, and it is known by chemical research to be the most important poison in tubercle bacilli 4 Temperature and local reactions may occasionally result from the injection of trypsin, pepton and sodium cinnamate, but only when large doses were injected whose bulk might produce constitutional disturbance and fever Atropin produced no reaction in moderate doses Local reactions occurred seldom and, except in fatal poisoning by pepton did not bear a close resemblance to the typical tuberculin reaction It is possible that pepton contains proteid substances chemically similar to tuberculin the injection of which excites more or less reaction in the tuberculous tissue The direct action of trypsin on tuberculous abscesses failed to produce reaction and thus did not favor an enzyme theory of the tuberculin reaction 5 The temperature variations noted preclude uniform results from tuberculin reactions in the early stages of tuberculosis The reaction susceptibility is apparently distinct on the fourth and fifth days after inoculation then irregular until the thirteenth and fourteenth days after which the reactions are the rule Since ten to fifteen days are required for the full development of tubercle it is more than probable that the specific susceptibility is not fully acquired until this stage is reached 6 The tuberculin extracted bacilli used probably still retained enough active substance to produce susceptibility The fat extracted bacilli appeared to have more reacting substance than the others Neither were completely extracted so as to be free from intact well stained tubercle bacilli The nuclein substance of the bacilli was presumably more abundant in the fat extracted bacilli and may produce reaction susceptibility independently of the fat though this is only suggested by the results of the experiments

Journal of the Michigan State Medical Society, Detroit.

August

64 *Treatment of the Intestinal Fistulas by the Elastic Ligature Theodore A McGraw
65 The Influence of Breast Feeding on the Infant's Development Henry Dwight Chapin
66 Cow's Milk for Infant Feeding Augustus Caillé
67 Milk Laboratories John Lovett Morse
68 *Substitute Feeding During the First Year Thomas Morgan Rotch
69 Difficult Cases of Feeding L Emmett Holt

64 **The Elastic Ligature in Intestinal Fistulas**—McGraw considers the etiology and pathology of intestinal fistula, and in speaking of the treatment, describes his method of procedure, which obviates the necessity of a second operation in these cases The bowel is drawn out of the wound until a portion is reached that is nearly normal in appearance, and then a lateral anastomosis is made between the two limbs with an elastic ligature, the idea being to provide a passage for the bowel contents and thus *enable the false anus, which* is no longer needed, to heal After the ligature has been applied the bowel is disinfected and all that seems in condition to recover is pushed back into the peritoneal cavity That part which is mortified, and that which appears dangerously near mortification, is fastened outside of the abdomen by stitching it to the abdominal wall The immediate result of such a procedure would be the relief of the distended bowel by means of the false anus and the gradual subsidence of internal congestion When that had taken place and the ligature had cut through, it was hoped that the fistula would heal spontaneously or could be made to heal by inverting the ends of the protruding bowel—a simple operation of little danger Two cases are reported which, though fatal, were both successful in opening the passage between the afferent and efferent bowel, and in obviating the passage of feces through the false anus In both cases the false anus had begun to heal before death cut the matter short

68 **Substitute Feeding During First Year**—Rotch's article reiterates what he has said before, that infants can not be fed by rule of thumb We can only lay down the general principles governing the milk supply and subsequent modification of the milk and, finally, its adaptation to the individual infant Each infant must be studied by itself The most successful feeder of infants will be the man who is thoroughly acquainted with the many resources in our modern methods of percentage feeding, and who can appreciate the individual needs of the especial infant.

Journal of Nervous and Mental Disease, New York.

August

70 *Remarks on the Surgical Treatment of Obstetrical Paralysis Royal Whitman
71 The Retrograde Atrophy of the Pyramidal Tracts J Ramsey Hunt
72 Manic Depressive Insanity with the Report of a Typical Case John W Stevens
73 Microscopic Study of the Non compressed Spinal Cord in a Case of Pott's Disease Alfred Gordon

70 **Surgical Treatment of Obstetric Paralysis**—Whitman divides these cases into three classes 1 Those seen soon after birth, in which the paralysis may be combined with other, and what is often considered more serious injury, such as fracture 2 The cases brought for treatment during the latter part of the first year when it has become apparent that complete recovery is doubtful 3 The cases seen in childhood and adolescence when treatment is sought from the hope that the disabled arm may be made more useful In the first class the treatment is rest and the infant's arm should be fixed to the chest with the fingers extended Gentle massage, flexion, extension and supination of the forearm, manipulation of the fingers and the like, should be employed As soon as the local sensitiveness has subsided the same treatment should be applied at the shoulder In the second class manipulation and forced movements at each joint, with the aim of regaining the entire range of normal motion, is a first essential, combined with systematic exercise, as far as is compatible with the intelligence of the patient. It is during this period that progressive distortions occur, which in themselves prevent recovery, and it is never possible to estimate the degree of irremediable injury to the nervous apparatus until they are overcome The most important of the distortions due to obstetrical paralysis is the subluxation of the

humerus downward and backward Cases of this character are often classified as congenital rather than acquired dislocations of the shoulder The author's method of treatment of this displacement, both the congenital and the acquired, has been somewhat similar to that of the reduction of congenital dislocation of the hip Contractions are overcome by leverage of the arm, first in an elevated and an extended attitude, the aim being to force the head of the humerus forward It is then pushed upward, by lowering the arm, and finally, by adducting it forcibly while the scapula is fixed as well as may be When the displacement has been reduced other contractions are stretched The limb is then fixed, usually by adhesive plaster and the plaster bandage with the elbow behind the thorax and with the forearm, if practicable in supination across the chest This fixation is continued for weeks or months, as may be necessary After its removal more or less forcible manipulation must be carried out with the aim of preventing the tendency toward recurrence of the former attitude If the paralysis of the deltoid muscle is complete the head of the humerus must be held in its new position and in outward rotation until it becomes securely fixed or if necessary the attitude may be assured by arthrodesis If the injury to the brachial plexus has been extensive and subluxation of the humerus is not present, operative treatment may be of value in lessening the disability

Bulletin of the Johns Hopkins Hospital, Baltimore

July

74 The Biography of Stephen Hales D D F R S Percy M Dawson
75 *A Case of Cancer of the Mamma Cured by Means of Roentgen Rays E Schiff
76 Thrombosis of the Internal Iliac Vein During Pregnancy I C Goldsborough
77 Changes in the Nervous System After Parathyroidectomy Colin K Russell
78 The Relation Between Carcinoma Cervicis Uteri and the Rectum and Its Significance in the More Radical Operations for that Disease John A Sampson
79 Observations on a Study of the Subclavian Artery in Man Robert B Bean
80 *The Blood in Pregnancy Wm L Thompson
81 A Case of Generalized Lead Paralysis with a Review of the Cases of Lead Palsy Seen in the Hospital Henry M Thomas

75 **Breast Cancer Cured by the Roentgen Ray**—Schiff reports such a case on account of the most favorable result of the cure and also because he was enabled to study the case histologically The left thorax was invaded by a tumor with large basis and of a solid consistence, extending from the left sternal margin to the axillary cavity where it reached the glands and formed a hard bunch The surface was ulcerated and bled when touched Ten or twelve tumors of about the size of a hazelnut were located along the lower border of the larger tumor Five similar nodules were located on the back of the patient Beneath the mass of enlarged axillary glands existed a crateriform cavity having gangrenous edges and a necrotic base The supra- and infra clavicular glands were hard. The diagnosis was inoperable cancer *en cuirasse* of the left mamma with lenticular metastases of the cutis It was decided to use the Roentgen ray, and after the third sitting the pains diminished considerably and the purulent discharge was lessened Improvement continued, and four months after beginning the treatment, excepting some superficial excoriated parts, a flat scar, crossed by some enlarged capillary vessels, had taken the place of the former tumor The cutaneous metastasis had disappeared, and all the lymph glands had become soft and were diminished in size The general health of the patient was good An examination of the fragment of the lenticular nodule of the back, which was considerably diminished in size by the treatment, showed that the greater portion of it consisted of large fibers, poorly nucleated, having the appearance of cicatricial tissue Between the fibers were seen leucocytes The deeper parts of the fragment contained cancerous tissue in the shape of small bundles of cells separated by a stroma of very thin fibers A fragment of the granulated surface of the cancerous ulceration showed the normal appearance of granulation tissue with many new formed capillary vessels Another fragment excised near the preceding one showed beneath a regenerating epidermis a large layer of cutis, and in its lower layers a small nest of cancerous tissue composed of six or seven cones pressed together

80 **The Blood in Pregnancy**—Thompson conducted a series of observations concerning the blood state of pregnancy in 12 cases, all living under practically the same hygienic and dietary conditions, suffering from no constitutional disease and having no special pathological affections The observations covered a period of seven months, and each patient was examined once a month during that time Two of the cases first came under observation at the second month of pregnancy, two at the third month, four at the fourth month, three at the fifth and one at the sixth month Four of the cases were followed throughout their pregnancy and subsequent delivery, and eight are still under observation The examination in each case included (1) an enumeration of red blood corpuscles, (2) estimation of hemoglobin percentage, (3) leucocyte count, (4) differentiation of leucocytes, and (5) determination of specific gravity of the total blood content From these examinations the author draws the following conclusion 1 A moderate decrease is observed in red blood corpuscles rather early in pregnancy, remaining subnormal throughout the middle months, to rise again to normal at the termination of pregnancy—not, however, in all cases 2 A low percentage of hemoglobin constant throughout the first seven months, rapidly approaching normal as pregnancy draws to a close 3 A slight absolute leucocytosis exists in every case of pregnancy, but this does not support the theory that it is due to positive chemotaxis 4 There is no variation from the normal in the different forms of white corpuscles, the leucocytosis affecting all forms of white cells alike 5 The specific gravity is high at the onset of pregnancy diminishing by progressive steps to reach its lowest level in the middle months, rising to normal at term

Journal of Cutaneous Diseases, New York

August

82 *A Peculiar Eczematoid Eruption of the Lip Region Henry W Stelwagon
83 A Second Case of Creeping Eruption Henry W Stelwagon
84 Some Notes Concerning Domestic Remedies Formerly Used in Skin Diseases James C White
85 Reasons for Considering Dermatitis Coccidioides an Independent Disease Douglass W Montgomery and Howard Morrow
86 A Case of Multiple Myomata of the Skin W A Hardaway

82 **Peculiar Eczematoid Eruption**—Stelwagon describes cases of eruption about the region of the lips that had many of the aspects of eczema, but with such unusual features as to give it a distinctive stamp The eruption usually begins on the vermilion of the lips, and shows at first as a slight superficial eczematous irritation with scanty exfoliation, and in some cases, or at times in the same case, variable crusting There never seems to be any liquid exudation There is rarely any distinctive thickening or infiltration, some burning and heat are sometimes complained of, but seldom any troublesome itching Slight fissuring is not uncommon, especially at the angles of the mouth, and these may be painful The condition may retrogress and fluctuate, or even relative or complete recovery take place, to be followed, as a rule, sooner or later by collapse After some weeks or months the disease generally extends somewhat on to the skin proper, either more or less evenly or with a slight or pronounced segmental border Usually after some duration, or sometimes coincidently with the lip involvement the malady spreads inward to the contiguous mucous membrane, where it appears first as an ill defined pinkish discoloration which later looks somewhat thickened, of a deeper red, and with or without a superficially abraded or coated surface, sometimes slightly roughed The disease is limited usually to the lower lip In two or three instances the upper surface of the tongue also was invaded but the invasion was not characteristic of leukoplakia Usually the mucous parts are only slightly sensitive or tender except when the patient takes very hot drinks or acid fruits The neighboring cutaneous surface also becomes invaded The face lesions are rarely seen higher up than the level of the alae nasi, their most common region being just beyond these parts and near the angles of the mouth and on the chin The disease is evidently of a benign character and leaves absolutely

no trace The interest naturally centers itself in the question of diagnosis, which hovers between eczema seborrhoicum, lupus erythematosus or a disease *sui generis* The disease on the skin is rebellious and that on *the mucous membrane* seems almost irremedial The treatment of the cutaneous lesions that seems to be most useful is similar to that of eczema seborrhoicum On the vermilion of the lips occasional mild superficial cauterization with liquor potassæ and the subsequent application of a soothing ointment will have a curative influence After relief is afforded attention to the digestive tract will do much toward warding off relapses, which are the rule Beyond the maintenance of the free action of the bowels and caring for the digestive functions, little else seems to be called for or is of any distinct service in *the way* of constitutional treatment

Journal of the Mississippi State Medical Association, Vicksburg

August

87 *Address on Hookworm Disease or Uncinariasis with Special Reference to Its Eradication Charles Wardell Stiles
88 Malaria Its Causes and Treatment. J M Alford
89 Treatment of Broncho pneumonia H L Sutherland
90 The Importance of Early Diagnosis in Syphilis S W Johnston.

87 **Hook-Worm Disease**—Stiles describes the species of hookworm found in man with reference to its general structure, its habitat, eggs, embryo and method of infection The classes of cases and the symptoms of the disease are discussed thoroughly, special emphasis being placed on the so called hookworm stare" and the findings in the feces The distribution and economic aspects of the disease also come in for their share of attention With reference to its prevention Stiles says that the most rational and radical method of procedure is to dispose properly of the fecal discharges, as these are directly responsible for the conveyance of the infection It is necessary, first, that state and local boards of health call attention to the necessity of building properly constructed privies, using them after they are built, and cleaning them periodically Second, the physician after seeing his patient, should inspect the hygienic conditions of the premises and instruct the family in the methods by which the disease is spread. Cotton mills and other factories should instruct their employes in the fundamental principle of hygiene which will restrict the spread of hookworm disease Men seeking employment in mines should be subjected to examination for hookworms and if found infected should be excluded from employment until they have been treated properly Boiling or filtering the drinking water and personal hygiene are also of importance but dwindle into insignificance when compared with the proper disposal of fecal matter Stiles suggests the following treatment Place the patient on a milk and soup diet for two or three days Give an aperient to clear out mucus, which so frequently covers the worm A mixture containing senna 2 oz calomel 6 gr is divided into four doses one dose to be *given every two hours beginning at noon* The following day give 31 gr of thymol at 8 a m and again at 10 a m, and magnesium or other laxative at noon Caution the patient not to take any alcoholics while the thymol is in the body If he is weak give stimulants other than alcohol Let the anthelmintic treatment rest for a week but give the patient good nourishing food and iron Repeat the treatment once a week until the parasites are all expelled

Pennsylvania Medical Journal, Pittsburg

July

91 My View of the Profession A N Neyman
92 Some Drugs Useful in Cardiac Affections Solomon Solis Cohen
93 The Syphilitic Nose and Throat. Charles P Grayson
94 *Some of the More Unusual Results of Movable Kidneys Charles P Noble
95 Danger Signals of Intracranial Infection from the Pneumatic Cavities of the Ear and Nose B Alex Randall
96 The Upper Respiratory Tract. J C McAllister
97 The Use of Myelocene in Catarrhal Deafness. W B Weidler
98 Traumatic Rupture of Internal Viscera Without External Signs of Injury W G Weaver
99 Perforated Gastric and Duodenal Ulcers John H Gibbon

94—See abstract in THE JOURNAL xlii ¶13 p 676

Illinois Medical Journal, Springfield

August

100 *Vaccination What *to Do* How to Do It What to Expect Ezra R. Larned
101 **A Unique Case of Imperforate Hymen* C B Horrell
102 The Physician and the State George W Webster
103 Relationship of Excretion of Common Salts to Dropsy and Renal Diseases N S Davis Jr
104 Radioactivity J C Sullivan
105 Bacteriuria with Special Reference to Coli Bacilluria Arthur R. Elliott.
106 The Medical Treatment of Puerperal Eclampsia H H Whitten
107 Defects of Vision and Hearing in the Public Schools J W Smith
108 When to Operate for Appendicitis S C Stremmel
109 Report of a Case of Intestinal Obstruction J F Percy
110 *Infectious Ulcer of the Cornea. Wm H Wilder
111 Acute Pancreatitis with Report of Case F A. Guthrie
112 *Lumbar Puncture* Its Value in Diagnosis and Treatment E P Cook.

100—This article has appeared elsewhere See THE JOURNAL of July 23, ¶62, p 284

101—See abstract in THE JOURNAL xlii, p 1511

110—Ibid, p 1441

Medical Age, Detroit

August 10

113 Special Topography of the Ureter Rectum Liver Pancreas and Spleen Byron Robinson.
114 *Compound* Comminuted Fracture Associated with Dislocation of the Ankle Joint Compound Comminuted Intercondyle Fracture L L McArthur
115 Tubercular Spondylitis—Etiology Edwin W Ryerson

Kansas City Medical Index-Lancet

August

116 *Stone in the Kidney Its Diagnosis* and *Operative* Treatment Joseph Ransohoff
117 The Early Diagnosis of Pulmonary Tuberculosis H C Shuttee
118 Notes on Some of the Newer Ophthalmic Remedies Joseph S Lichtenberg
119 Malaria Its Complications and Sequelæ R W Caldwell
120 Scabies Halsey M Lyle

The Post-Graduate, New York.

August

121 Care of the Newborn Augustus Caillé
122 A Contribution to the Treatment of Fractures of Both Bones of the Forearm Carter S Cole
123 Tumors. Robert Langerhans
124 Clinic by Dr Albert Hoffa Professor of Orthopedic Surgery in Berlin Held at the Post Graduate Hospital June 3 1904 Henry Ling Taylor
125 Aural and Ophthalmic Clinic S B St. John Roosa.
126 Dietary of the Child in Health and Disease Herman P Sheffield.

Quarterly Journal of Inebriety, Hartford, Conn

July

127 Summary of the Effects of Alcoholic Liquors on the Functions and Structures of the Human Body in the Small Moderate and Large Doses Both in Health and in Conditions of Disease Also on the Degeneracy of Offspring The late N S Davis
128 Recent Contributions *to Our Knowledge of* Alcohol and Its *Action on the Animal Body* Winfield S Hall
129 Evolutionary Pathology of Chronic Alcoholism W Ford Robertson
130 Unconscious Pro-alcohol Influences in Literature John Madden
131 Disguised Intemperance David Paulson
132 Alcoholism and Tuberculosis Legrain

Washington Medical Annals, Washington, D C

July

133 Early Diagnosis of Pott s Disease Frank P Vale
134 The Value of a Knowledge of Abnormal Mobility of the Ilia as an Aid in Diagnosing Diseases of the Nervous System D Kerfoot Shute
135 Three Cases of Endocarditis in Two of Which There Was Also Pericarditis D S Lamb
136 Case of Chronic Pericarditis and Hypertrophy of Heart D Percy Hickling
137 Scarlet Fever Thomas N Vincent.
138 Cases of Fibroids of the Uterus Henry D Fry
139 Some Responsibilities of the Modern Obstetrician Henry D Fry
140 Hypertrophied Pharyngeal Faucial and Lingual Tonsils Their Significance and Treatment C R Dufour
141 Case of General Cancer N D Graham

Canada Lancet, Toronto

August

142 Newer Methods of Diagnosis of Kidney Cases as Applied to *Renal Surgery* W A Hackett.
143 Lithotomy vs. Litholapaxy Charles B Shutteworth
144 Oration in Surgery Minnesota State Medical Association Alexander Hugh Ferguson
145 The Surgical Treatment of Enlarged Prostate George A Bingham
146 Enlargement of the Prostate Gland Frederick W Marlow
147 Treatment of Prostatic Hypertrophy T K Holmes

Dominion Medical Monthly, Toronto

August

148 Address, Ontario Medical Association J F W Ross
149 Newer Methods of Diagnosis of Kidney Cases as Applied to Renal Surgery W A Hackett

Canadian Practitioner and Review, Toronto

August

150 Address, Ontario Medical Association J F W Ross
151 A Case of Appendicitis in Pregnancy John Sheahan
152 A Restatement of the Attitude of the Profession Toward Placenta Previa K. C McIlwraith

New York State Journal of Medicine, New York

August

153 Report on the Results in Infant Feeding with Different Kinds of Pure and Impure Milk in Tenement Houses of New York City A Clinical and Bacteriologic Study Wm H Park and L Emmett Holt
154 Treatment of Puerperal Infection James Hawley Burtenshaw
155 Non surgical Treatment of Appendicitis Peter Stockschlaeder
156 Abortion with Report of Cases Jennie M Turner

California State Journal of Medicine, San Francisco

August

157 *Preliminary Report on a Peculiar Infection of the Mouth and Throat, with a New Variety of Oidium Resembling Thrush H R Oliver
158 Illustrative Cases of Myelogenous Leukemia—Preliminary Report George H Evans
159 Concretio-Pericardii Cum Corde George L Cole
160 Tendon Transplantation with Report of a Case S J Hunkin
161 Intestinal Obstruction—with Report of Three Unusual Cases C S Lockwood
162 Surgical Anatomy of the Inguinal Canal Claire W Murphy
163 Uretero cystostomy, with Report of Case. J Henry Barbat
164 Innervation of the Heart and Use of Cardiac Stimulants in Treatment of Shock O O Witherbee
165 Determination of the Functional Capacity of the Kidneys with Special Reference to Kidney Surgery M Krotoszyner

157 —To be noted editorially

Mobile Medical and Surgical Journal

July

166 Cardiac and Vascular Complications and Sequels of Typhoid Fever Jerome Cochran Lecture William Sydney Thayer
167 Some Remarks on Hookworm Disease Claude A Smith

Physician and Surgeon, Detroit

June

168 The Present Campaign Against Insanity William J Herdman
169 Report of a Case of Cellulitis Involving the Arm and Forearm Dean Loree
170 A New Retractor for Mastoid Operation Emil Amberg

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 13

1 Discussion on Standards of Ventilation Drs Haldane, Jones, Oliver, Hay Thomas, Symons, Hunter and Groves
2 Discussion on Compressed air Illness or Caisson Disease Drs Oliver Smith, Snell
3 The Influence of Antenatal Conditions on Infantile Mortality G F McCleary
4 *Discussion on Malta Fever Drs Bruce, Bassett Smith, Hutton Grech Clarkson and Preston
5 A Naval Surgeon s Notes John Lloyd Thomas
6 The General Hospital in War, Its Working and Staff C R Kilkelly
7 Is the Widespread Slight Training in Ambulance Work Beneficial to the Community? S Hamilton
8 *The Organization of the Treatment of Syphilis in the Navy F H A Clayton
9 *Note on the Wounded in the Naval War Between Japan and Russia, 1904 S Suzuki

4 **Etiology of Mediterranean Fever**—Bassett Smith summarizes his paper as follows Mediterranean fever shows no sign of decrease at Haslar Both officers and men suffer severely, but the percentage of young officers and men in early adult age is proportionately great All ships appear to be equally affected, according to the time spent by them at Malta Harbor, the permanent harbor ships giving the most cases Men very frequently contract the fever while in Malta Hospital, while admitted for other diseases, and the nursing staff in attendance on them show a great tendency to develop the disease, but whether that is due to its endemicity or to direct infection there is no clue Most of the cases occur during May and June There is no evidence of infection being received from the shore other than through the agency of wind carried germs The organism can retain its vitality for a considerable period when desiccated, but dies in about five days in sterile fresh and sea water and urine, but remains active long in sterile milk The organism is very virulent in laboratory cultures, readily causing attacks when taken in by the mouth or through accidental inoculation The micrococcus melitensis is present in the peripheral blood in all cases during the early stages and in severe pyrexial relapses In the afebrile intervals and following cachexia it is not demonstrable In no case is it very abundant The disease may remain latent for several months, and relapses may occur for a period of two years at least, but when once completely cured it confers permanent immunity The evidence at hand suggests that in the presence of bad sanitation where the disease is endemic, infection is probably conveyed in dust by winds, mostly in the hot dry months following the rains, and that it gains access to the patient through some breach of surface, probably in the throat

8 **Treatment of Syphilis in the Navy**—Clayton says that men who have contracted syphilis should have the consequences of their misfortune impressed on them by giving them a small pamphlet of advice, and should, as far as possible, be prepared both for combating the disease and for preventing any ill effects of mercury by proper care of the teeth, etc Their attendance for observation and treatment should be made a part of routine both in ships and shore establishments, and proper records of attendance kept Such records should include the dates and nature of symptoms and treatment and any other points of value, in order that to ensure continuity, the requisite information might be sent with the patient on transfer to another ship

9 **Observations of a Japanese Naval Surgeon**—Suzuki's experience during several actions has led him to the following conclusions as regards the surgical arrangements on board warships 1 First aid dressings are of importance if applied immediately after the injury, at the site of its occurrence, instead of being applied in the surgery or hospital Ambulance parties should be stationed at various parts of the ship The practical and careful education of ambulance parties is essential to future progress in the treatment of wounds 2 The first aid packages used in the navies of different countries are folded too small, as the wounds inflicted by shell fragments are always larger than those made by small caliber rifle bullets A convenient size for the sterile absorbent cotton wool is four inches square and one quarter inch thick, covered with gauze and stitched in a few places around To this pad the middle part of a gauze bandage eight feet long and four inches wide should be stitched and kept aseptic This does away with the triangular bandage 3 The modes of carrying the wounded vary with the size and build of the ship Hand carrying is practiced in small ships In the battleships and first class cruisers, stretchers may be used if the surgeons impress on the bearers how to handle them quickly No one form of stretcher is suitable for all purposes on board ship 4 On board warships in action surgeries should be provided in more than one place, even when there is only one surgeon on board A place below water line is preferable, but every ship does not allow surgeons to do this 5 Slight protection may save serious injury to the body It is possible that in time every combatant on board warships in action will wear some kind of a protecting mask and jacket, such as the rifle proof jacket devised by the Germans some time ago It is important to remember, in regard to the disposal of wounded men, that the non firing side of a ship is more dangerous than the firing side, that is, the one exposed to the enemy, as the fragments of bursting shells are disposed in a radiating manner 6 Strict observance of aseptic surgery is essential in military as in civil surgery, but the performance of serious operations on board warships is incompatible with the good progress of cases It is advisable to transfer such cases as soon as possible to hospital ships The surgeon in chief must take care to secure the fullest efficiency in the use of hospital ships as non combatant steamers are desired to be left as far as possible behind the actual seat of war

The Lancet, London

August 13

10 *The Value of the Addition of Citrate of Soda to Cow's Milk in Infant Feeding F J Poynton
11 Infective Cyclitis (So-called Sympathetic Ophthalmia) H Percy Dunn
12 Suggestions for the Prevention of Puerperal Infection in Private Practice John W Byers
13 Nephritis in Infantile Scurvy George F Still
14 *Interrupted Circulation as a Therapeutic Agent Wm Ewart
15 An Epidemic of Acute Ophthalmia Simeon Snell
16 The Prevalence of Cancer and Its Increase W Rodger Williams
17 Paralysis from Lesion of the Upper Part of the Brachial Plexus R. T Williamson
18 A Case of Anterior *Dislocation* of the Semilunar Bone of the Wrist. Ernest W H Groves
19 A Case of Sloughing Pancreas Death from Secondary Hemorrhage W H Brown.

10 **Citrate of Soda in Infant Feeding**—Poynton attaches more importance to the peculiar nature of the fluid fed the infants as a substitute for mother's milk than to its percentage *composition* It is not always possible to obtain the proper kind of milk, nor can all babies be fed alike because of individual peculiarities For some time the author has been following a method proposed about eleven years ago by Dr A E Wright, that of mixing with each feeding citrate of soda The advantages accruing from the use of citrate of soda are 1 It renders the curd of cow's milk more easily digestible 2 It is cheap 3 It is convenient to handle, easy to control and progressive in principle 4 It allows the milk to be given in a more concentrated form and thus avoids, to some extent, the danger of underfeeding 5 There is no danger of scurvy 6 Given as a medicine it gains the confidence of the mother The indications for its use are (1) as a routine for weaning a healthy infant onto cow's milk, and (2) for correcting milk dyspepsia The drawback is a tendency to constipation, which is, however, easily controlled The limitations are 1 In rare cases of complete intolerance of cow's milk 2 In severe cases of gastroenteritis from impure milk 3 In organic disease, such as congenital hypertrophic stenosis 4 In very intractable cases which have been subjected to all sorts of different methods beforehand. As a routine method for the artificial feeding of the poor child, the best is citrate of soda in the milk, provided the milk is sound

14 **Interrupted Circulation as a Therapeutic Agent**—Ewart discusses the physiologic action of "interrupted circulation" in the treatment of rheumatoid arthritis He believes that the emptied arteries suddenly receive a ramming charge when the tourniquet is removed, and that the internal surface of the capillaries and of the lymph spaces, in which they are immersed, is submitted to sudden stimulation On the other hand, during the preceding stage of ischemia a certain amount of suction must have existed within them, not only owing to the collapse of the elastic tissues, but also from the intravascular negative pressure set up by the procedure The tendency would be for the emptied blood vessels to suck up some of the remaining tissue lymph or in cases of inflammation some of the more fluid inflammatory exudates In rheumatoid arthritis, with its special features of immobilization of the joints and of stagnation of the lymphatic circulation, both theories would fulfill direct indications, and it proves to do so in the two cases cited by the author The technic is exceedingly simple A padded armlet of soft leather, or a circular pad of lint and cotton wool of sufficient thickness to protect the nerves having been secured round the upper arm, or the thigh, a loop of India rubber tubing of suitable thickness is passed behind the limb over the pad, and the two ends of the loop are strongly put on the stretch with one hand The other hand grasps the tubes close up to the front of the lint, thus tightening the loop into a strong ligature or tourniquet The degree of arterial occlusion depends on the strength with which the two ends of the loop are pulled up, the limb having previously been drained of much venous blood by raising it and by stroking the larger veins empty The compression quickly induces blanching of the skin and numbness of the extremity, similar changes doubtless taking place through the thickness of the limb For ordinary purposes half a minute, or at most two minutes of this will suffice. The tube is then let go, and this is at once followed by a bright cutaneous flush of capillary injection and a pleasant feeling of warmth The same maneuver is repeated, say six times at intervals of a few seconds Two or more such sittings may be used daily In both the author's cases the results have been most satisfactory The synovial and lymphatic effusions have been benefited more largely than the periarticular fibrosis, and this is consistent with the views expressed as to the probable mode of action of this method In the treatment of the stiffness of joints there is a definite help in the numbness which accompanies the stage of ischemia, and which allows, within prudence, an increased amount of passive motion to be applied The method would, therefore, be specially promising in the early stages and in the exudative forms of rheumatoid arthritis, it being understood that it is merely an adjunct in our treatment, from which we can not spare any other available resource, whether local or constitutional

Medical Press and Circular, London

August 10

20 Difficulties Met in the Experimental Treatment of Cancer Skene Keith
21 The Present Position of Radium in Therapeutics C M O Brien
22 New Methods *of* Treatment Lucein Weyll
23 The Mode of Origin of Nasal Polypi Eugene S Yonge

The Clinical Journal, London.

August 10

24 Clinical Lecture on Pain in the Chest F J Smith
25 Neurotic Children Leonard Guthrie.
26 Personal Hygiene Leonard Williams

Calcutta Practitioner

April

27 *Hydnocarpus Oil in Diabetes, Rheumatism, Chronic Skin Diseases and Leprosy Hem Chandra Sen
28 Some Obscure *Forms of* Diseases of Joints and Diseases in Their Neighborhood Suresh Chandra Bhattacharya
29 Case of Chronic Malarial Fever Indu Madhab Mallick

27 **Hydnocarpus Oil**—This oil is obtained from the seeds of *Hydnocarpus wightiana, or H inebriens,* belonging to the natural order *Bixinæ* It is a common tree found along the coast ranges of the western Gats The seeds yield by expression or by boiling in water about 44 per cent of oil which has a faintly yellow color and is devoid of any characteristic odor It is allied to Chaulmoogra oil, but it does not, at ordinary temperature, deposit a crystalline fatty acid Treated with sulphuric acid, the oil affords the gynocardiac acid reaction The oil has been employed as a domestic remedy by the natives of the western coast ranges in skin diseases, ophthalmia, and as a dressing for wounds and ulcers It is a gastrointestinal irritant and in large doses acts as an emetic and purgative It is prescribed in doses of from 15 minims to two drams in cases of leprosy, various skin diseases, secondaries of syphilis chronic rheumatism, and diabetes When taking the oil the patient should take light liquid food, soft rice, etc It is well to combine it with the decoction of catechu When used as an ointment it is mixed with equal parts of sulphur, camphor, lime juice and jatropha carcus oil.

Presse Médicale, Paris

30 (I No 51) *Traitement des prurites F Trémollères
31 La question du lait (of milk) P Dlfloth
32 (No 52) *Cirrhose du foie et appendicite (cirrhosis of liver and ap) T Tuffier and A Mauté
33 Les abcès du foie dans la fièvre typhoide A Guinard.
34 (No 53.) *La cure radicale de la hernie crurale Le procédé du rideau et de la suture des gaines (curtain act and suture of sheaths) H Chaput
35 A *propos* d un cas de super tuberculisation Contamination mutuelle des tuberculeux et necessité de leur isolement individuel P Carnot
36 A *propos* des tremulations ventriculaires (in massage of heart) E. Gley
37 Insuffisance nasale fonctionnelle et ré-éducation respiratoire M Lermoyez
38 (No 53) Technique de l hysterectomie abdominale pour cancer du col de l'uterus (of neck) F Jayle Illustrated
39 Les toxicomanes. A propos d un cas d héroinomanie G Comar and Buvat.
40 (No 54) L analgésie locale par la stovaine P Reclus See abstract page 575
41 *Traitement de l hystérie et de la neurasthenie par l isolement et la psychothérapie A. Thomas.
42 *Le faux rein flottant (false floating kidney) A. Mayor

30 **Treatment of Pruritus.**—Trémolieres reviews the various endocutaneous hematic and nervous causes that may contribute

to induce pruritus He attributes it essentially to a pathologic condition, an exaggeration of the perpetual and reciprocal interchange of impressions between the nerve centers, the tissues, the viscera and the sensory and cutaneous terminals, a true nervous circulation, with a closed circuit In this closed circuit excitations circulate and can not escape They accumulate, and although each may be trivial in itself, yet by their accumulation they pile up a state of sensory excitability which in time manifests itself as pain or pruritus Each cell stores up in its memory the excitations that have acted on it, and this "mnemodermia," as Jacquet calls it, aids in locating of a pain or pruritus later For example, if the hands are chilled during a drive, a glass of spirits later in the day is liable to induce pruritus in the parts of the hands that had been most exposed Pruritus may be described as the exaggeration of those elementary cutaneous sensations which emanate from the sensory fibers of the great sympathetic nerve Prophylaxis of pruritus consists in avoiding nerve strain and overwork of all kinds, in studying temperance in all things, with an easily digestible diet, wearing linen or fine cotton next the skin, with exercise and cold douches or tubs, followed by frictioning, to aid in the distribution of the peripheral sensibility Removal of the cause of the pruritus may be promoted by venesection, 200 to 250 gm, repeated after a few weeks if necessary Among the symptomatic measures great relief may be obtained from tempered douches, once or twice a day, at 35 C, one to three minutes at a time, the jet interrupted, terminating with a brief, very cold douche The various modes of treating pruritus by different authorities are reviewed, but the main stress is laid on prevention by removing the cause and reducing the general nervous excitability

32 **Cirrhosis of Liver and Appendicitis.**—The influence of appendicitis on the liver is confirmed by the case described The patient was a young man who succumbed to peritonitis the fiftieth day after the first vague symptoms of appendicitis Two appendicitic abscesses had been evacuated At the necropsy the organs were found sound, with the exception of the liver, which presented a typical picture of recent portal cirrhosis There were no antecedents of alcohol, malaria or syphilis, and the connection between the appendicitis and the sclerous process in the liver seems unquestionable Letulle, Achard and Dieulafoy have observed somewhat similar cases All this testimony suggests that the plan of waiting and operating *à froid* in appendicitis may leave the liver and kidneys a prey to evils that might be avoided The intensity of the infectious process and the reactional aptitude of the subject, with his inherited predispositions, will determine whether the result is trivial and transient or entails a chronic nephritis or cirrhosis of the liver

34 **The "Curtain" Operation for Femoral Hernia**—Chaput points out that in very large femoral hernias the neck of the sac extends in front of the femoral vessels in such a way that the hernia is liable to recur through the femoral canal, either in front of the femoral vessels or inward from the femoral vein The best technic to prevent recurrence consists in pulling down, like a curtain, the internal oblique and the transversalis, as far as the pectineal spine, completing the operation by suturing the sheaths of the vessels to Poupart's ligament, both in front and inside, and also to the internal oblique He has operated on 10 patients by this "curtain" technic, and has found it highly satisfactory in every respect

41 **Isolation in Public Hospitals in Hysteria and Neurasthenia**—Déjerine is so impressed with the value of isolation and psychotherapy in the treatment of hysteric and neurasthenic women that he has adopted these measures in his general hospital practice He isolates the patient's bed in the ward by curtains around the bed, prohibiting all intercourse with the family, friends or even the nurses The visit of the physician in the morning and of the interne in the evening, and the attendance of the nurses under the strict supervision of the head nurse, are the only means of communication between the patient and the world outside her curtains The only exception is that other patients of the same category, improving or cured under this treatment, are brought to the bedside and allowed to describe the favorable results obtained in their case The course of isolation and psychotherapy lasts at least three or four weeks, but it is astonishing how complete and permanent the cure attained in this way in the public hospital These isolation cures have generally been regarded as the prerogative of the rich During the first week or so nothing is given the patient but milk, from three to five quarts a day Forty patients have been thus treated, and wonders have been accomplished in the cure of extreme emaciation, fixed ideas and the phobias of neurasthenics and of the contractures and paralyses of hysteria

42 **Improved Technic of Palpation of Abdomen**—Mayor mentions among other points that if vaselin be rubbed into the skin of the abdomen palpation is very much facilitated The organs can be examined almost as if they were stripped of the parts above

Berliner klinische Wochenschrift

43 (XLI, No 30) *Further Inoculation from the Syphilitically Infected Chimpanzee O Lassar (Berlin)—Ueber eine Weiter Impfung vom syphilitisch inficirten Chimpansen
44 *Fall von transitorischem Diabetes E Mann
45 Die hemolytische Wirkung des Sublimats L Detre and J Sellei
46 2 Fälle von Cystadenoma mammæ E Kethel
47 *Importance of Intestinal Gases for the Animal Body in Condensed and Rarefied Air E Aron—Die Bedeutung der Darmgase für den Tierkörper in verdichteter und verdünnter Luft (Commenced in No 29)
48 *Review of Recent Works on Public Health etc G Meyer (Berlin)—Sammelreferat

43 **Further Inoculation from Syphilitic Chimpanzee**—Lassar gives an illustrated description of his successful inoculation of a second chimpanzee from the first one which he inoculated with human syphilis, as mentioned in these columns at the time The course of the infection was identical in each The primary sore healed completely and the syphilitic lesions developed later on the brow, soles, arm and hand These successful results suggest the possibility of obtaining an effectual curative serum from these animals [The Paris dailies, by the way, relate that two apes which are being made the subjects of experiments in this line at the Pasteur Institute, were recently taken out for a walk by an attendant One of them broke away and attacked an infant in a passing baby carriage, scratching it severely The infant was taken into the institute, and the parents reassured with the statement that the ape had not yet been inoculated with syphilis—Ed] Both of Lassar's apes succumbed later, one to genuine pneumonia, the other to acute miliary tuberculosis

44 **Case of Transient Diabetes**—Mann remarks that the transition of diabetes insipidus into diabetes mellitus is a rare occurrence—he knows of only a single instance, reported by Senator in 1897 He describes an additional case, which was under constant observation all the time Diabetes insipidus developed under his eyes, and this in turn changed into genuine diabetes mellitus, accompanied by intense acidosis This severe affection lasted only 16 days, and then disappeared as suddenly as it had come on, the acidosis vanishing before the sugar in the urine Such an acute course of severe, typical diabetes passing into at least temporary, complete recovery, is a hitherto unknown phenomenon The few cases of transient diabetes on record always lasted at least six weeks, and were consecutive to trauma or infectious diseases, in youthful subjects The patient in the case described was a man of 45, who entered the hospital on account of cholelithiasis with a possibility of cancer in the stomach Diabetes insipidus developed under expectant treatment for a month, and this became transformed into diabetes mellitus, but by the end of the second month the patient was free from any symptoms of either Two or three months later he succumbed to sudden hematemesis, and the necropsy revealed a gangrenous carcinoma in the lesser curvature, adherent to the pancreas The liver and brain were apparently normal, and the pancreas was macroscopically intact If the pancreas had been microscopically cancerous, diabetes due to this source would have persisted without change to the end The recovery noted speaks against any anatomic connection between the cancer and the diabetes

47 **Importance of Intestinal Gases for Pressure in Pleura**—Aron summarizes his experiments in the statement that the pressure in the pleura varies when the intestinal gases are sup

pressed He experimented on *animals in* the pneumatic chamber

48 **Recent Works on Public Health, Vital Statistics, Etc**—Meyer reviews a host of recent works inaccessible to physicians in general and yet repaying study Among the points brought out we note that the morbidity in the Prussian army dropped from 908 3 per thousand in 1890 to 682 5 in 1808 The mortality has fallen from 4 1 per thousand in 1885 to 2 2 in 1898 The proportion of venereal diseases has dropped by 10 per thousand during the last five years, although the army numbered 10,218 more men In the German army, *1898, the proportion* was 19 9, in the French army, 37 2, Austrian, 61 5, Italian, 96, and English, 132 7 There has been a decrease in all the armies since 1881 The mortality from cancer in Saxony increased from 58 to 96 per thousand inhabitants between 1873 and 1899, although the total mortality during this period has fallen from 28 7 to 23 3, and that of tuberculosis from 2 29 to 1 98 The collective cancer inquiry of October 15, *1900* showed 160 male cancer subjects and 269 female to every million inhabitants in the German Empire Behla has recently published "Die Carcinom Litteratur," in which the titles of 5,500 works on this subject *are* given, classified by the organs affected He urges that greater attention should be paid to cancer in plants and animals His book is the outcome of years of painstaking collecting

Centralblatt f Chirurgie, Leipsic.

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49 (XXXI No 27) Ein neuer kompletter Apparat zur chirurgischen Paraffin Plastik. W Krlin (Prague)
50 *Official Report of XXXIII German Congress of Surgery 1904 Mostly auto-abstracts
51 (No 28) *Sweeping Out the Choledochus. H Kehr (Halberstadt)—Die Choledochusfege
52 (No 29) *Zur prophylaktischen Blutstillung bei der Trepanation (hemostasis) von Hacker (Graz)
53 (No 30) *Open Treatment of Wounds After Transplantations F Brüning (Freiburg)—Ueber offene Wundbehandlung nach Transplantationen

50A **Ephemeral Traumatic Glycosuria.**—Kausch noted this phenomenon in 11 cases of recent trauma, fracture or contusion He ascribes it to the psychic excitement induced by the injury

50B **Narcosis in Diabetics.**—Chloroform should be systematically avoided for diabetics, ether is the anesthetic for them, preferably operating during the first whiffs Chloroform induces more acetonuria than ether The amount of the narcotic and the duration of the narcosis should be reduced to the minimum Inhalation narcosis should always be undertaken early in the morning, and the diabetic should always be prepared for every operation with sodium bicarbonate until the urine gives an alkaline reaction The narcosis should be restricted to a sugar free period, if possible, but it should not coincide with the disappearance of the sugar or follow it too closely If coma impends or has already developed, push the bicarbonate per os, per anum, subcutaneous *and* intravenous Gluconic acid (carbohydrate acids) should also be given a trial It is consumed by the organism, does not burden the carbohydrate metabolism and reduces the acetonuria

50C **Lumbar Anesthesia.**—Klapp announces that an oily vehicle retards the absorption of cocain Dogs can be injected subcutaneously with a fatal dose of cocain in an oil medium without any symptoms of intoxication. It is also possible to induce complete general anesthesia in a dog by injection through lumbar puncture of cocain, in a concentrated solution of gelatin, without any signs of toxic *action* His experiments have demonstrated that the absorbing power of the dura is tremendous Intradural absorption occurs in the first hour, while the subcutaneous requires five hours Adrenalin retards dural absorption, but not as much as it retards the subcutaneous Lumbar anesthesia with cocain in a mucilaginous vehicle is a peculiarly convenient and effectual method of inducing general anesthesia in animals for surgical purposes Dogs thus treated allow, without a sound, operations on the most varied parts of their body The technic is particularly adapted for veterinary practice The conditions are different in man Man has more cerebrospinal fluid and does not tolerate cocain as well as the dog The necessary fractioned sterilization of the gelatin might also interfere with its efficacy in man

50D **To Enhance Resisting Powers of Peritoneum.**—Mikulicz reduces the danger of an *inflammatory* reaction in the peritoneum during abdominal operations by artificially enhancing its resisting forces As a specific immunization is out of the question, owing to the multiplicity of the causal *agents,* he accomplishes his aim by inducing an artificial hyperleucocytosis Nucleic acid was found the most energetic agent in this respect of all the substances tested Twenty to forty times *the other*wise fatal dose of coli infection is tolerated by the guinea pig's peritoneum without reaction when the nucleic acid is injected seven hours before the operation The measure has been tried on man in 34 instances It seems *as harmless in the clinic as in* experimental tests, and it frequently induced a hyperleucocytosis up to 25,800 The maximum is reached in man about twelve hours after the injection All the patients passed *through the dangerous* first week without any peritoneal complications The operations had included 7 resections of the stomach, 13 gastroenterostomies and other severe abdominal operations One patient succumbed *to pneumonia* three weeks later, and one in a month to a pre existing complication. The general course of the recovery seemed smoother than usually observed. He injects 50 c c. of a 2 per cent solution of neutralized yeast, nucleic acid injected subcutaneously in the chest wall He advocates copious rinsing of the abdominal cavity with warm physiologic salt solution, as this has also a tendency *to* elicit hyperleucocy*tosis* in the *peritoneum* beside its other advantages

50E **Thrombosis in Mesenteric Vessels During Operations.**—Payr noticed that the *omentum appeared inflamed in 7 cases* when the abdomen was opened. During the course of the operation he witnessed the development of thrombosis in the adjacent veins of the omentum or intestine Nothing in the operation had inflicted any mechanical injury on these veins, as this was especially guarded against Inflammatory processes evidently afford a predisposition In case of infectious embolism, symptoms of intoxication predominate and the prognosis is serious, the hemorrhages appear early In non-infectious embolism the hemorrhages do not appear until the seventh to the eighth day, and may be arrested by therapeutic measures or spontaneously In case of extensive thrombosis of the mesenteric veins, the connected intestine should be resected, as also the omentum in case of thrombosis of any of its veins It *must* be done very cautiously without traction or injury of the sound parts Further data should be collected in regard to venous thrombosis in the abdominal organs, and it should be studied from a broader standpoint

50F **Horizontal Abdominal Posture After Laparotomies.**—Küster's experiments with colored fluids on cadavers showed that all the fluid injected into the abdominal cavity drained away when lying flat on the belly In 6 cases of septic peritonitis he had the patients assume this position after the laparotomy, and here extols its advantages A bolster under the chest allows the arms to be moved

50G **Treatment of Hernia by Injections of Alcohol.**—Brodnitz has treated 73 cases of hernia by injecting .5 to 5 gm of alcohol around the inguinal canal, repeating the injection every second or third day until four to ten have been made The tissues around the hernial opening swell and harden under the influence of the alcohol The injections are continued once a week for two or three *months* by which time there is a cicatricial induration which opposes an effectual barrier to the tendency to hernia The results are most beneficial in the incipient cases and in children, but the method is applicable for all cases in which an operation is contraindicated or refused.

50H **Treatment of Excessively Large Hernia.**—Madelung applies the term "übergrosse Hernien" to those in which reduction is impossible, even *by an operation* He treats such cases by resection of the redundant mass of intestines, or by making a fistula in the afferent portion of the intestine It acts like a safety valve, warding off constipation and its consequences Helferich has observed 2 deaths following sudden reposition of an excessively large hernia Kausch resects the omentum in such cases, but has never resected the intestine for this cause alone

50i **Splanchnotripsy**—Lanz has been applying Doyen's angiotribe to intestinal surgery for "splanchnotripsy," and comments here on its many advantages It is particularly valuable in appendicectomy He has not had a single death or fistula in 15 early and 405 cold operations for appendicitis since he has been using this splanchnotribe Exclusion of the intestine is rendered easier by it, as also implantation of the ureter, making an artificial anus for a safety valve, etc He found that the lumen of the intestine became permeable again in time, although the crushed strip was 1 5 cm wide, and had been re enforced by a ligature

50j **Early Operation for Kidney Tuberculosis**—Kümmell emphasizes that the best way of curing tuberculosis of the bladder is by removing the kidney responsible for the infection The bladder should never be operated on for local tuberculosis, but the kidney above should be removed as soon as possible In 260 operations on the kidney, tuberculosis was found in 48, all but 15 of the subjects being women A primary focus elsewhere in the body was certain or probable in every case The kidney became infected by way of the blood or lymph, and the bladder was infected in turn from the kidney Tubercle bacilli were found in the urine in all of the 6 cases reported in detail, although considerable efforts were required to detect them The prognosis of tuberculosis of the kidney is favorable on condition of complete removal of the organ He obliterates the ureter its entire length by inserting a galvanocautery in the shape of a sound, which can be heated for 10 cm from its tip It is inserted cold in the ureter from the nephrectomy wound to the bladder, and the current turned on This insures the complete obliteration of its entire lumen Of the 32 nephrectomized, cured subjects followed to date, the interval since the operation is fifteen to three years in all but 5, and two years in the latter Eight patients have been nephrectomized during the last year Krönlein of Zurich reports 24 still living out of 34 tuberculous nephrectomized patients None of the deaths was due to insufficiency of the remaining kidney The interval since the operation has ranged from one to fourteen years Küster remarked that the finding of tubercle bacilli is not an infallible sign of urogenital tuberculosis He has recently encountered a case of this kind In the course of a convulsion there was hemorrhage from the urinary organs, and tubercle bacilli were detected in the urine, and yet both kidneys were completely free from tuberculosis—as shown by excised portions—and there was only interstitial atrophy He advocates exposure of both kidneys to decide in dubious cases Rosenstein emphasized the value of palpation of the ureters through vagina and rectum as an aid in the diagnosis The ureters are involved very early in a tuberculous affection of the kidneys, and the positive results of palpation of the ureters may dispense with their catheterization Steinthal's experience has been that tuberculosis of the kidney is very rarely primary, and that the other kidney is liable to become affected in time In one case there was an interval of five years of health after nephrectomy, but then the remaining kidney presented the same symptoms He believes in operating only in case of severe, destructive processes, but Kümmel insists on the progressive nature of the affection Kapsammer stated that exposure of the kidney alone does not always suffice In one instance he found a cavity in the upper pole on slitting the organ when nothing in the aspect of the kidney had indicated its existence

50k **Venous Hyperemia**—Henle's technic has already been described in these columns A rubber tube is wound around the limb and held with a clamp It is then pumped full of air, which insures constriction with accurate dosage of the pressure by connecting the tube with a manometer This technic is particularly valuable for constriction preliminary to local anesthesia

51 **Sweeping Out the Choledochus.**—The German word which Kehr employs, "Fege," is the term applied to sweeping out a chimney He now makes a practice of cleaning out the common bile duct by pulling a strip of gauze through it, thus sweeping out all concrements that may be lurking in it He has found that the gauze always brings numerous small stones or scraps to view, whose existence it was impossible to determine by any other means In one case he repeated the process five times before all the scraps of concrements were completely removed In this case, as in 2 other similar ones, he performed ectomy, cysticotomy, incision of the supraduodenal portion of the bile duct, duodenotomy, papillotomy, "choledochus-fege," choledochus drainage and hepaticus drainage The length of such an operation varies from an hour to an hour and a half Recovery was uneventful in each instance, as also in his 6 cases of drainage of the hepatic duct Since last April he has performed 25 gallstone operations, and found stones in the common bile duct in 9 of them After removal of the gall bladder he slits the cystic and common bile duct to the duodenum and removes the stones from the retroduodenal part of the duct, pushing them up and picking them out with forceps Exposure of this part of the duct never caused any appreciable hemorrhage In 2 cases he mobilized the duodenum according to Kocher's technic and found it a valuable aid In 3 cases he was obliged to incise the duodenum The papilla was seized with Konig forceps, incised and the stone removed He then inserted a forceps of the kind Kocher uses for drawing down and out a hernial sac, inserting it from the duodenum into the papilla, and pushing it through the bile duct in the direction toward the liver, until it appeared to view again in the incision in the supraduodenal portion of the duct The blades of the forceps were then slightly opened and a narrow strip of moist gauze was placed between the blades and drawn down backward with the forceps into the duodenum, thus sweeping out the bile duct as a chimney is swept He thus advocates for suitable cases transduodenal choledochotomy, with consecutive "choledochus fege" and careful suture of the duodenum, reinforcing the suture with omentum, as a thorough and certain operation which has afforded excellent results in his hands, as he describes in detail

52 **Prophylactic Hemostasis in Trephining**—Heidenhain's method of preliminary hemostasis—described in THE JOURNAL, xlii, page 930, abstract 71—has been modified by von Hacker, who takes merely a single row of the overlapping stitches on the outer side of the incision for the flap, instead of on both sides This leaves the flap intact, while the hemostasis is ample for the purpose of trephining He describes a case to show the advantages of this technic Of course, this percutaneous running stitching with a single thread is adapted for the cases alone in which no large vessels are involved in the base of the flap

53 **Open Treatment After Transplantation**—Brüning waxes enthusiastic over the fine results observed when the wound is left open to the air after application of Thiersch flaps Healing proceeds very rapidly, both on fresh and granulating wounds He has found this technic peculiarly valuable for operation under local anesthesia, such as is generally used for Thiersch grafting When possible, he has the patient remain lying quietly on the table for several hours before he is moved, to allow the grafts to adhere to the surface beneath before he stirs When the subject is in bed he applies a wire frame over the part to protect it from contact with the bedding Serum exudes between the grafts and sometimes forms tiny blisters under them The grafts are usually firmly adherent in six to eight hours, and he lightly presses out the serum from the blisters, using a gauze pad for the purpose, without fear of dislodging the grafts A dressing can be applied during the night if there is danger of rubbing the parts during sleep, but otherwise he prefers the open treatment for both day and night The grafts all healed in place by the eighth day, at latest, the superfluous parts along the edges drying up and dropping off None of the grafts shriveled afterward There is not the slightest tendency to maceration with this open treatment, the blood coagulates and helps to hold the grafts, and the danger of displacing them by the dressings is entirely obviated

Deutsche medicinische Wochenschrift, Berlin and Leipsic

54 (XXX, No 31) *Diminished Responsibility G Aschaffenburg —Verminderte Zurechnungsfähigkeit.
55 Fractures of Auditory Canal Passow —Anatomische Untersuchungen über das Zustandekommen von Gehörsgangsfrakturen mit Krankenvorstellung
56 *Ueber die Rückbildung der Mäuse-Karzinome unter dem Einfluss der Radium Strahlen H Apolant (Ehrlich's laboratory Frankfurt)
57 *Behandlung und Heilung der Alopecia areata durch direkte Bestrahlung mit kaltem Eisenlicht (with cold iron light) E Kromayer
58 *Ein neues immunisierendes Heilverfahren der Lungen Phthise mit Perlsucht Tuberkulin C Spengler (Davos)
59 *Klinische Erfahrungen über die Dekapsulation der Nieren beim Morbus Brightii P Rosenstein (J Israel's clinic, Berlin)
60 Disturbances in Hearing Treitel —Ueber Störungen des musikalischen und Sprach Gehörs
61 Neuere Erfahrungen über die Therapie der perniziösen Anemien E Grawitz. (Commenced in No 30) See abstract in last issue
62 Letter from America A Hoffa.

54 Diminished Responsibility—Two recent sensational cases in Germany, the Dippold and the Prince Arenberg cases, have focused public attention on the questions of diminished responsibility and the socially dangerous insane Several important works have been published on the subject, and the tenth conference of the German branch of the international association for the study of criminology adopted a set of resolutions at the Stuttgart meeting in May The lawyers' congress, to convene in September, has also appointed these questions for discussion. Aschaffenburg reviews the recent works and discusses the views advanced, giving the Stuttgart resolutions, which are as follows 1 Criminals not fully responsible for their acts should receive a milder sentence Appropriate measures to protect society should be imposed in the case of those acquitted on account of absolute lack of a sense of responsibility, as also for those whose sentence is milder on account of diminished responsibility Similar protecting measures should be imposed on persons with diminished or lacking sense of responsibility, although they have not yet committed a crime These protecting measures should be imposed by a special process similar to the process of the guardianship of minors 2. The president of the international association is commissioned to request that a law to this effect be enacted for the empire 3 Mentally deficient prisoners should be placed under the special supervision of the physician. The physician should have the deciding voice in regard to these prisoners' disciplinary and other treatment, and also in regard to appealing for their release from the full execution of their sentence

56 Retrogression of Carcinoma on Mice Under Radium Rays—Apolant has previously described his cancer research on mice (See page 1111 of vol xlii) He here illustrates the microscopic findings during retrogression of the carcinomas under the influence of radium rays The carcinoma cells vanish, and there is a proliferation of connective tissue The radium rays evidently have a specific destructive action on the carcinoma cells, supplemented by the inducing of a specific absorption of the dying carcinoma cells under the influence of the rays This specific action is shown peculiarly vividly in the case of carcinomata on mice, as the dying cells are not absorbed nor cast off without the radium exposures, the animals otherwise carrying them around as dead ballast so long as they live This necrotic mass is generally cast off under intensive radium treatment powerful enough to induce ulceration and transform the cancer into an open ulcer, after which the cancer cells are absorbed and the lesion heals The rays have to be applied so vigorously to accomplish this result that some of the animals succumbed The lack of penetrating power imposes a limit on the efficacy of radium treatment which renders it dubious whether as a therapeutic measure it has much of a future

57 Successful Treatment of Alopecia Areata with Iron Light—Kromayer of Berlin does not hesitate to proclaim that phototherapy with the iron lamp is by far the most effectual means at our command for treating alopecia areata We can confidently count on a cure with it, even in those cases in which all other measures have totally failed. His technic is simple, convenient and does not require much time The results observed confirm the assumption that alopecia areata is not a parasitic affection All that is required to cure it is a stimulus, and this is supplied by the superficial inflammation of the skin induced by the iron light, it extends along the hair follicles to their depths and stimulates the roots of the hair to renewed proliferation He gives the details of 6 cases thus treated with the iron "triplet" or 'dermo" lamp (See abstract of his previous communication on the subject, page 1119 of vol xli) Another promising field for the cold iron light is in superficial disinfection of the skin This light does not require preliminary compression of the part

58 Immunization of Consumptives with a Bovine Tuberculin—Spengler makes a tuberculin from bovine material which has very pronounced therapeutic value, while the reaction that follows its use is like that of very weak human tuberculin He calls it Perlsucht Original tuberculin (P T O) It is the filtered bouillon in which Perlsucht bacilli have been grown until they formed a very thin film over the surface. The bouillon is evaporated to one half, the missing fluid substituted by glycerin The initial dose is 1 mg diluted with 9 mg of a 5 per cent carbolic solution The injection is made centrifugally in the forearm, and is repeated, doubled, when every trace of the consecutive edema has vanished In case of great debility he rubs the tuberculin into the skin of the arm instead of injecting it He has found this percutaneous method especially valuable for acute tuberculosis in children He uses it also at times for the Koch tuberculin He combines the two in his new technic and calls a patient cured when he can take an alternating dose of 100 mg P T O and 100 mg tuberculin (Koch's T O A) without reaction, and constantly negative sputum findings By this technic the course of treatment with tuberculin can be very much shortened and more complete results attained There is absolutely no danger from the Perlsucht tuberculin The very first doses confer marked immunity Spengler believes that human and bovine tuberculosis were originally one, but that the bacilli have adapted themselves to their hosts until each has become the vaccine material for the other The Perlsucht toxins are much less virulent for man than human tuberculosis toxins

59 *Decapsulation of the Kidneys*.—Rosenstein reports 6 cases from Israel's clinic and sifts Edebohls' published material He concludes that all the cases cured by decapsulation of the kidney were merely inflammatory processes, due to abnormal movability of the organ Bright's disease is never unilateral, and the unilateral cases cited as evidence of the efficacy of the treatment must have been merely inflammation of a wandering kidney In severe Bright's disease, decapsulation of the kidney has a mortality record of 26 per cent Permanent cure has not been obtained in a single instance, and in the cases in which improvement was noted the edema persisted in one case and the albumin and tube casts in the urine In another case the headaches and scotoma persisted unmodified

Münchener medicinische Wochenschrift.

63 (LI, No 30) *Ueber den Einfluss von Anomalien des Brust Skeletts auf den Perkussions Schall der Lunge und auf die Lage des Herzens C Bäumler
64 *Ueber Behandlung schwerer komplizierter Frakturen mit Aufklappung und temporärer Vorlagerung der Fragmente (bringing out the stumps) G Doberauer (Prague)
65 *Results of Single Carlsbad Course on Gallstones F Fink —Die Erfolge eines einmaligen Kur in Karlsbad bei Gallensteinkranken
66 Ueber Bestimmung des Hemoglobin Gehalts mittels der Fallqvistschen Skala zur Verth and Schuhmacher
67 *Odor of Infant Feces. P Selter (Solingen) —Die Gerüche der Sauglings-fäzes
68 Die Behandlung des Ekzems mit den neueren und neuesten Mitteln u a auch am eigenen Körper untersucht. L Mayer (Munich)
69 *Zur Hygiene des Rauchens (*of smoking*) J Bamberger
70 Schwere Nephritis *nach Einreibung* eines Scabiösen mit Peru Balsam A. Gassmann
71 Suture of Fresh Laceration of Perineum G Vogel Ibid J Eversmann
72 To Promote the Study of the History of Medicine K Sudhoff

63 *Anomalies in Chest Wall*.—Bäumler has sometimes found that the diagnosis of tuberculosis was based on abnormal percussion findings due solely to anomalies in the bony frame of the thorax, while the lungs were sound in reality In examining patients, special attention should be paid to the sym metry of the halves of the thorax, both sitting and standing The size, shape and depth of the supraclavicular regions on each side should be compared Slight scoliosis may cause the bulging of the rear portion of the upper ribs, with consequent abnormal percussion and auscultation findings, although the lungs may be perfectly sound It is a good plan to inspect the seated patient from behind, comparing the sagittal diameter of both sides of the chest, and tracing the spine its entire length An irregular configuration of the "shoulder girdle" is responsible for many abnormal findings on percussion The anomalies in the chest wall usually entail a displacement of the heart When the spine is abnormally straight, the front intercostal spaces are liable to be very wide This pushes the sternum up and the heart lies with a greater portion of its surface parallel to the wall of the thorax than in normal conditions The apex beat is broader and stronger The reverse occurs when the spine is unduly curved, and its sideward curve also has an influence on the position of the heart The organ may be perfectly sound, but these unusual positions may simulate hypertrophy of the left ventricle, especially in rapidly growing young persons with an 'excitable heart'

64 **Temporary Exposure of Stumps in Complicated Fractures.**—At Wölfler's clinic it is the practice now in severe, complicated, septic fractures to avoid amputation, if possible, by freely exposing the parts Five cases thus treated are described in detail The fractured leg or arm was turned back on itself in such a way as to make the wound gape and the fractured stumps project, the stumps held well apart by antiseptic sponges This allows better inspection of the wound does away with all menacing recesses and dead spaces and injury of the soft parts from the jagged stumps Necrotic tissues can be more readily removed and drainage facilitated When mere incision and drainage prove ineffectual, this opening up of the region may control the severest infection and save the limb after failure of all other measures It is so simple and effectual that it can be applied even without waiting to try other measures, in certain cases, and may save many a limb otherwise doomed to amputation

65 **Results of a Single Carlsbad Gallstone Course**—Fink has been practicing at Carlsbad for about a dozen years He reports his observation of 263 cases of gallstones in which a single course of treatment was taken In the majority of cases the gall bladder did not cause any symptoms The disturbances in the liver predominated, and had been the incitement to the Carlsbad course A single course resulted in an apparent permanent cure in 72 83 per cent of a former series of cases and in 87 33 per cent of the present series Its efficacy is limited by long continuance of the affection, by a superposed infection and by chronic occlusion of the bile duct Hence the importance of early diagnosis and treatment

67 **Odor of Infants' Feces**—Selter comments on the rather agreeable, acid, aromatic odor of normal breast milk stools, due to the fat acid and lactic acid and absence of albumin putrefaction Any change from normal is evident at once in the odor Cow's milk stools are always pasty, whitish, alkaline and have a true fecal odor In mucous catarr of the intestines the stools smell more like wet hay, when digestion is good, but this odor is overshadowed by putrefaction or fermentation The nose is thus able to determine conditions in the digestive tract, sometimes before they can be revealed by any chemical tests, thus disclosing impending fatty diarrhea, fermentation of carbohydrates or of albumin, etc

69 **Hygiene of Cigar Smoking**—Bamberger classifies smokers as the "dry" and the "wet" The "dry" smokers are those who hold the cigar in their lips without wetting it with saliva This is free from the dangers of "wet" smoking—that is, allowing the cigar to soak in the saliva The saliva dissolves out of the tobacco many harmful substances which are swallowed and help to induce tobacco poisoning Alcohol in the stomach, even in minute amounts, aids in the dissolving and rapid diffusion of the swallowed poisons All cases of tobacco poisoning probably have occurred in "wet" smokers Cigarettes are not wet in this way so much, their harmfulness is mainly in the large number used and the swallowing of the smoke Chewing tobacco contains so little nicotin that it can scarcely be regarded as directly harmful, especially as it lacks the products of combustion When nicotin poisoning from this source does occur, it assumes a special type, a painful weakness, hallucinations, tendency to suicide, with various sensory disturbances (deafness, loss of sense of taste) and prosopalgia, neuralgia Erb has recently noted a connection between arteriosclerosis and tobacco (see page 232), and Bamberger has had occasion to observe an attack of angina pectoris, with other manifestations of arteriosclerosis in a "wet" smoker of 40 Erb has also informed him in regard to a still later case in a young man, a pronounced "wet" smoker, but free from other taints Smokers should be warned to keep their cigars dry and to take them out of the mouth between the whiffs Thoms has recently patented his method of preventing tobacco poisoning It is based on the fact that certain iron salts hold in combination the bases of tobacco smoke Cotton impregnated with ferric chlorid is an efficient filter for this purpose It holds back 77 78 per cent of the nicotin and its bases, and 86 11 per cent of the ammonia The ethereal benz oil and surphur hydrate are completely held in combination and none escapes A tampon of cotton dipped in ferric chlorid applied to the tip of the cigar will thus afford efficient protection against tobacco poisoning It is even affirmed that it improves the flavor of a cheap cigar making the flavor more like that of genuine Havana tobacco on account of the effacement of so much of the nicotin and of the rank smelling chemicals in the cheap tobacco

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review as dictated by their merits or in the interests of our readers

A PRACTICAL TREATISE ON GENITO URINARY AND VENEREAL DISEASES AND SYPHILIS By Robert W Taylor A M M D Clinical Professor of Genito-urinary Diseases at the College of Physicians and Surgeons (Columbia University) New York Third Edition Thoroughly Revised With 163 Illustrations and 39 Plates in Colors and Monochrome Cloth Pp 757 Price $5 00 New York and Philadelphia Lea Brothers & Co

SPECIAL CATALOGUE OF THE HYGIENE EXHIBITION German Empire The World's Fair in St Louis Catalogue on the Exhibits on Hygienic Matters and of All Other Exhibits Prepared Under the Direction or the Participation of the Imperial Board of Health in Berlin Paper Pp 246 Berlin Julius Springer 1904 St Louis Emil Savor, Educational Building

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY, for Students and Practitioners By E C Dudley, A M M D President of the American Gynecological Society Fourth Edition Revised With 409 Illustrations in Colors and Monochrome of which 18 Are Full page Plates Cloth Pp 771 Price $5 00 net. Philadelphia and New York Lea Brothers & Co 1904

A MANUAL OF PRACTICAL MEDICAL ELECTRICITY The Roentgen Rays Finsen Light Radium and Its Radiations and High frequency Currents By Dawson Turner B A M D F R C P Edin, M R C P Lond President of the Royal Scottish Society of Arts Fourth Edition Revised and Enlarged Cloth Pp 435 Price, $4 25 New York Wm Wood & Co 1904

THE PURIN BODIES OF FOODSTUFFS and the Rôle of Uric Acid in Health and Disease By I Walker Hall M D Assistant Lecturer and Demonstrator in Pathology the Owens College Second Edition Revised Cloth Pp 201 xiii Price $1 50 net. Philadelphia P Blakiston's Son & Co 1904

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION Volume XVI Sixteenth Session Held at Atlanta Ga Dec 15 16 and 17 1903 Edited by W D Haggard, M D Cloth Pp 486 Published by the Association 1904

AN INDEX OF SYMPTOMS AS A CLEW TO DIAGNOSIS By Ralph Winnington Leftwich M D Late Assistant Physician to the East London Children's Hospital Third Edition Cloth Pp 308 Price $2 00 New York Wm Wood & Co 1904

DISEASES OF THE STOMACH AND THEIR SURGICAL TREATMENT By A. W Mayo Robson F R C S, and B G A Moynihan, M D Lond F R C S Second Edition Cloth Pp 508 Price $4 25 New York Wm Wood & Co 1904

THE CLASSIFICATION AND PATHOLOGY OF BERI BERI By Hamilton Wright M D (McGill) Honorary Fellow of Johns Hopkins University Paper Pp 74 Price 3s 6d net London John Bale Sons & Danielsson Ltd 1903

EL HOSPITAL LAS ANIMAS Por el Dr Enrique B Barnet Con un Apendice por los Dres Juan Guiteras Y Mario G Lebredo Publicado Para Distribucion Gratuita Paper Pp 51 Spanish and English Edition Habana. 1904

CHAPI A Acropatia Mutilante Informe Presentado al Jefe de Sanidad de la Republica. Por el Dr Juan Guiteras Publica para Distribucion Gratuita Spanish and English Edition Paper Pp 41 Habana 1904

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Original Articles.

THE PELVIC URETERAL SHEATH

ITS RELATION TO THE EXTENSION OF CARCINOMA CERVICIS UTERI *

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BALTIMORE

During the last year and a half I have been studying the extension of carcinoma cervicis uteri with special reference to its bearing on the more radical operations for that disease These studies[1] have demanded a knowledge of the anatomy and physiology of the neighboring structures of how the disease invades these parts, and especially the effect of the more radical operations on such organs as the bladder ureters rectum and other pelvic structures

In studying cross sections of the parametrium of those cases in which the lower ends of the ureters have been resected in order to obtain a wide excision of the primary growth, an opportunity was afforded not only of determining how the growth invaded the parametrium, but also its relation to the ureters In these cases it was noticed that the ureters were inclosed in a sheath which seemed to be derived from the tissue along or through which the ureters pass, and served as a protection to the ureters from the invasion of the carcinomatous growth

Waldeyer[2] has called attention to the fact that there is pictured in Krause's anatomy longitudinal muscular bundles which extend from the bladder up on the ureter, but the cut is not accompanied by any description He describes them as longitudinal muscular bundles which are united to each other by connective tissue and separated from the ureter by a space which can be injected This sheath has a thickness of 5 to 75 mm, and he says extends from 3 to 4 cm up along the ureter The lumen he considers to be a lymph space

Disse[3] refers to Waldeyer's sheath, and says that these muscular bundles, which are greatly hypertrophied, do not come from the bladder, as they appear to do, but from the ureter, and suggests that their hypertrophied condition, as well as the space between them and the ureter, arises from the contractions of the bladder pulling on the outer ureteral coat

If the abdominal portion of the ureter is exposed at autopsy and partially freed from its surrounding tissue and traction made on it, it can be drawn out from what is apparently a sheath, which seems to be a part of the subperitoneal connective tissue, and is continuous with that surrounding the kidney above and accompanying the ureter into the pelvis below Cross sections of the abdominal portion of the ureter, with its surrounding tissue, show that the ureter lies in the subperitoneal adipose and fibrous tissue, and that this tissue forms a very imperfect and rather indefinite sheath about the ureter, and it usually requires some play of the imagination to make out a definite ureteral sheath from cross sections of the abdominal portion of the ureter If the dissection is carried down into the pelvis, this apparent ureteral sheath becomes more definite, so much so that it may be split open and the ureter shelled out from it On reaching the bladder the lower end of the ureter seems to be reinforced by muscle bundles extending from the bladder up along the ureter, and which have been referred to

On stripping the peritoneum from the side of the pelvis it will be noticed that the portion of the ureter above the parametrium may be carried down with the peritoneal flap thus formed This portion of the ureter will be referred to as the subperitoneal portion while that below the entrance of the ureter into the parametrium may be called the parametrial portion of the ureter

Cross sections of the subperitoneal portion of the ureter show that it is surrounded by a fibrous sheath which is derived from the tissue along or through which the ureter passes, and here is adherent to the peritoneum, on that account the ureter, with its sheath, may be dissected away from the walls of the pelvis with the peritoneum This is shown in Figure 1, which represents a cross section of the ureter taken about 1 5 cm above its entrance into the parametrium This sheath is better developed in some cases than in others, and by cross sections one may follow it above the brim of the pelvis in one case, while in another case the sheath around the entire subperitoneal portion of the ureter may be poorly developed Cross sections of the parametrial portion of the ureter show how the sheath accompanies the ureter through the parametrium, or, to express it more correctly, how there is formed about the ureter a sheath from the tissue along or through which the ureter passes, is shown in Figure 2

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs. V C Vaughan Frank B Wynn and Joseph McFarland

[1] Sampson The Importance of a More Radical Operation in Carcinoma Cervicis Uteri as Suggested by Pathological Findings in the Parametrium Johns Hopkins Hospital Bulletin 1902 xiii 299 307 Also Ascending Renal Infection with Special Reference to the Reflux of Urine from the Bladder Into the Ureters as an Etiological Factor in Its Causation and Maintenance Johns Hopkins Hospital Bulletin 1903 xiv 334 352 Also The Efficiency of the Periureteral Arterial Plexus and the Importance of Its Preservation in the More Radical Operations for Carcinoma Cervicis Uteri. Johns Hopkins Hospital Bulletin, 1904 xv 36-40 Also The Relation Between Carcinoma Cervicis Uteri and the Ureters and Its Significance in the More Radical Operations for that Disease Johns Hopkins Hospital Bulletin 1904 xv 73 84 Also Complications Arising from Freeing the Ureters in the More Radical Operations for Carcinoma Cervicis Uteri with Special Reference to Postoperative Ureteral Necrosis. Johns Hopkins Hospital Bulletin 1904 xv 123 134 Also The Relation Between Carcinoma Cervicis Uteri and the Bladder and Its Significance in the More Radical Operations for that Disease. Johns Hopkins Hospital Bulletin 1904 xv 156-162

[2] Waldeyer Ureter-scheide Verhandlungen der Anatomischen *Gesellschaft* 1892 259 260

[3] Disse Von Bardeleben, Handbuch *der Anatomie* Gustav Fischer Jena 1902 vol vii No 1 pp 107 109

Cross sections of the lower 1 to 2 cm of the ureter demonstrate that this portion of the ureter is surrounded by muscle bundles which also give rise to a sheath, and which Waldeyer[2] claims extends up along the ureter for a distance of 3 to 4 cm In the cases which I have studied the muscular sheath has not extended over 2 cm above the bladder Disse[3] claims that these muscles arise from the ureter and not from the bladder, as they appear to do See Figures 3 and 4

The pelvic portion of the ureter is surrounded by a sheath which is derived from the tissue along or through which it passes Near the bladder this sheath is composed mostly of muscle fibers As one examines cross sections higher up, the muscular fibers gradually disappear and one finds that another sheath appears which fuses with the muscle fibers, encircling the upper ends of them and is continued above as the fibrous sheath previously referred to It is difficult to determine the origin of the muscular fibers about the lower end of the ureter They apparently arise from the bladder and I think that this is true for some of them, on the other hand, one can see from cross sections taken at different levels that others may arise from the outer coats of the ureter, as Disse[3] claims

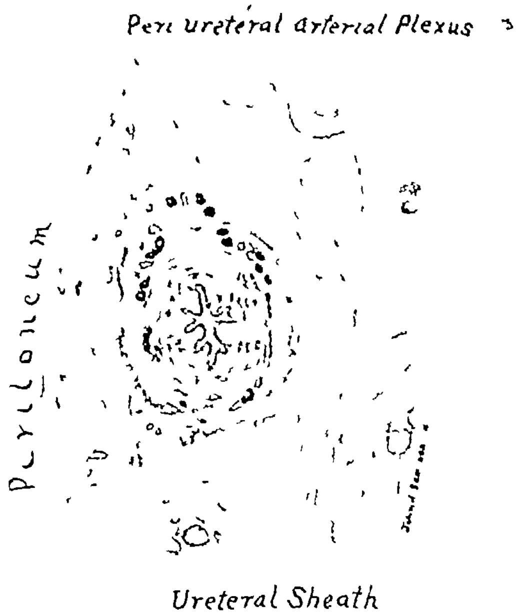

Fig 1 —Transverse section of ureter with its sheath taken 1 5 cm above its entrance into the parametrium ×5 The internal iliac artery was injected one hour after death, with a 15 per cent solution of gelatin colored with ultramarine blue The large vessels of the periureteral arterial plexus are shown contrasting with the smaller branches in the walls of the ureter The inside of the sheath is filled with adipose and fine fibrous tissue in which are imbedded the periureteral vascular plexuses

The structure of the sheath is dependent on the structure of the tissues along or through which the ureter passes Near the bladder one finds muscular fibers predominating, while higher up the sheath is composed of fibrous tissue, with an occasional muscle bundle The thickness of the sheath varies in different places, and in different cases, and is dependent on the tissue about it as may be seen by referring to the illustrations The lumen of the sheath is filled with adipose tissue and strands of fibrous tissue and contains the vascular ureteral plexus One finds in the sections of this sheath empty spaces, which in some instances may be lymph spaces but in nearly every instance which I have seen appeared more like artefacts A hypodermic needle may be inserted along the ureter and colored fluid forced into the tissue about the ureter, and this will follow the course of the ureter, indicating that this sheath restrict-

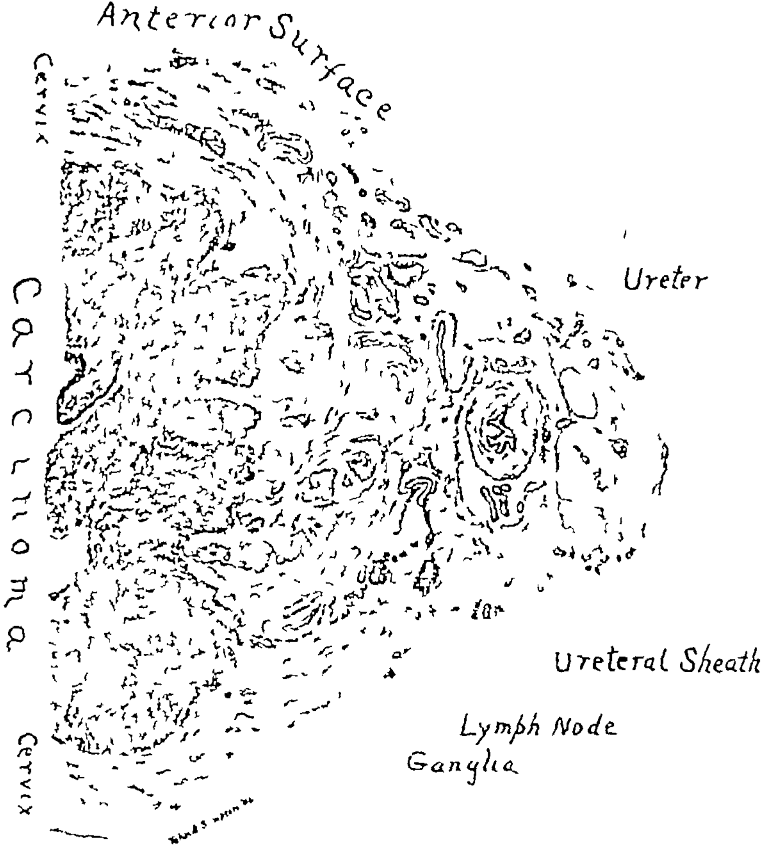

Fig 2 —Transverse section of ureter with its sheath taken about in the middle of the parametrium ×2¼ Transverse section of right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri in which the lower portion of both ureters was sacrificed and the renal ends of the ureters implanted into the bladder The ureteral sheath is derived from the tissue along or through which the ureter passes, and here consists of fibrous tissue with a few fine muscle bundles at the upper end Within its walls can be seen the larger vessels of the periureteral vascular plexuses in cross section

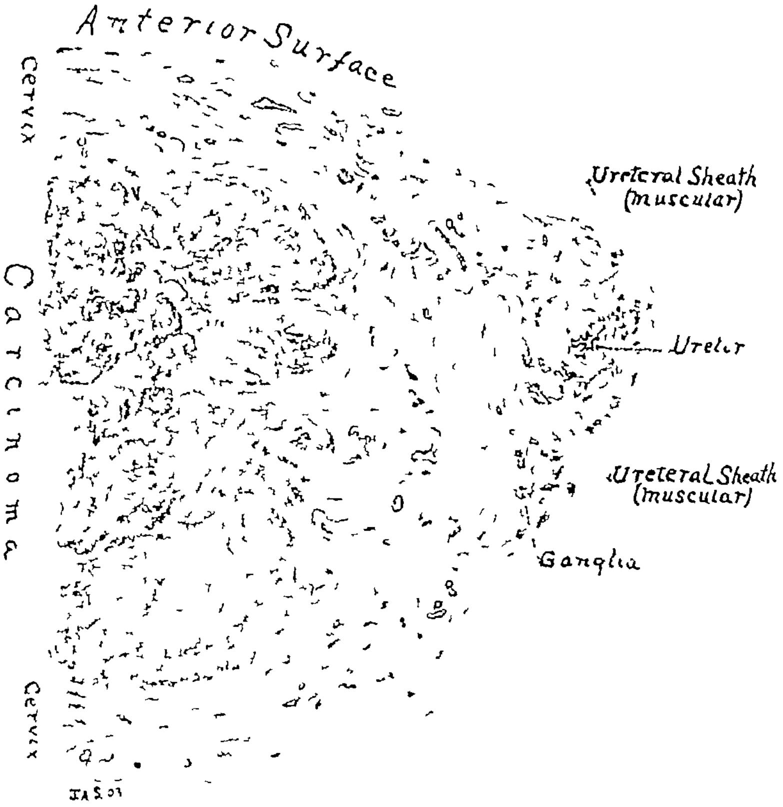

Fig 3 —Transverse section of ureter with its sheath taken just above the bladder ×2¼ From the same specimen from which Figure 2 was drawn As one can see the ureter at this level is surrounded by muscle bundles The ureter at this level is very near the cervix and it would take but little involvement of the parametrium either by direct extension or metastases for the cancer to reach or extend beyond the ureters

its spreading into the surrounding tissues and forces it to extend along the ureter

ORIGIN OF URETERAL SHEATH

It would seem that the sheath was due to the activity of the ureter, the peristalsis, with its sliding motion and distension and contractions of the ureter, forms out of the surrounding tissue a channel, the walls of which may be called a sheath In support of this view it may be said

1 The sheath, as such, is absent in the fetus

2 In a case of double ureter, in which the ureters were close together, one sheath was common to both

3 Its structure varies with that of the surrounding tissue

4 The ureter, deprived of its sheath, may form another from the tissue in which it becomes imbedded A patient was readmitted to this hospital in April of this year with a recurrence of carcinoma cervicis uteri about the left ureter At the first operation, six months before, the ureters had been freed and the ureteral sheath removed with the uterus and growth The recurrence, which was about the size of a hen's egg, was removed with the lower 4 cm of the ureter, and in studying the specimen it was found that a new sheath had formed about the ureter from the tissue in which it had become imbedded

5 The sheath is developed best in parts where there is opposition to its contractions and expansions, as in the pelvis, while in the abdomen, where the ureter lies in loose adipose and fibrous tissue, which offers very little resistance to the peristalsis of the ureters, the sheath is imperfectly formed or absent

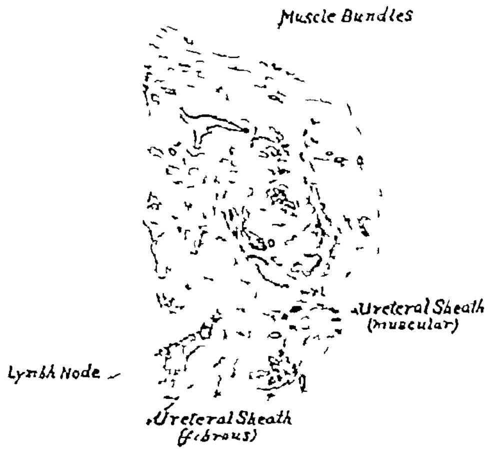

Fig 4—Transverse section of the ureter showing the relation between the fibrous portion of the ureteral sheath and the muscular portion ×2¼ Transverse section of a portion of the parametrium from the same specimen from which Figures 2 and 3 were made, and about half way between the two In the outer wall of the ureter can be seen heavy muscle bundles suggesting that the muscular sheath (Waldeyer) arises from the ureter as Disse claims on the other hand, other muscle bundles may be seen alongside of the ureter which may come from the bladder (?) Outside the ureter and the remnants of the muscle bundles can be seen a fibrous sheath which blends with the muscular sheath and gives rise to the fibrous sheath in Figure 2

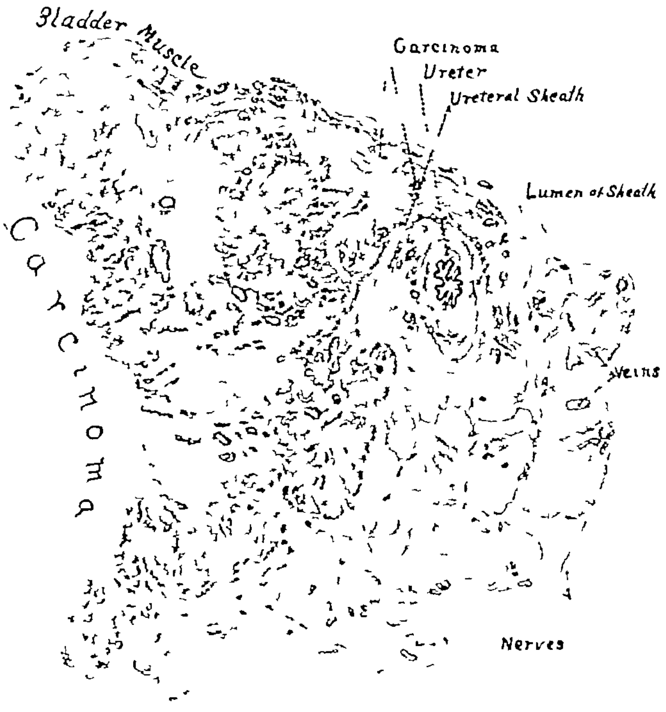

Fig 5—Demonstrating the effect of the invasion of the ureteral sheath by carcinoma cervicis uteri, ×2¼ Transverse section of the right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri in which the lower portion of the right ureter was sacrificed and the renal ends of the ureter implanted in the bladder

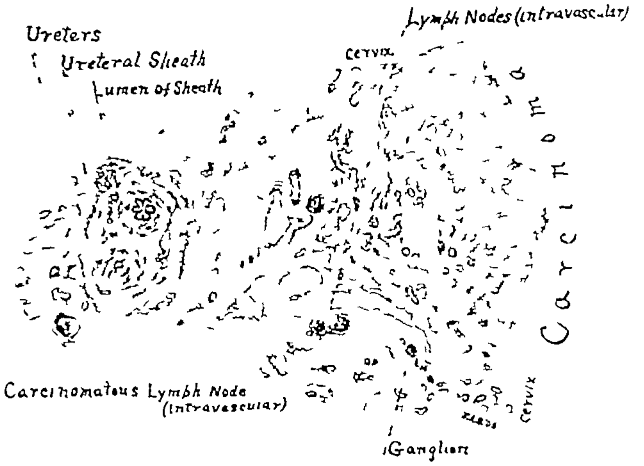
Ureters
Ureteral Sheath
Lumen of Sheath
Lymph Nodes (intravascular)
Cervix
Carcinoma
Carcinomatous Lymph Node (intravascular)
Ganglion
Cervix

Fig 6—Demonstrating the relation between a metastasis to a minute parametrial lymph node and the ureter ×2¼ Transverse section of left parametrium and portion of the cervix The double ureter has but one ureteral sheath instead of two thus suggesting that the sheath is derived from the pelvic structures along or through which the ureter passes and not from the ureter Four lymph nodes are shown, and the one situated lateral and posterior to the double ureter is carcinomatous

RELATION OF THE URETERAL SHEATH TO DISEASED CONDITIONS

One can see how the sheath would protect the ureter from inflammatory processes and new growth On the other hand, thickening of the sheath from these diseased conditions might interfere with the function of the ureter An interesting condition arises where a stricture occurs at the vesical end of the ureter The ureter becomes distended and frequently very tortuous, and sometimes kinked Normally one finds certain constrictions in the ureter, one below the kidney and another at the brim of the pelvis, apparently due to a thickening of the surrounding tissue (sheath) at this place Where a hydroureter occurs, these constrictions become more marked and the ureter markedly distended above and below the constrictions where the tissue about the ureter is loose and the sheath formation less perfect When a kinking of the ureter takes place it is apparently due to a rupture of the tissue surrounding the ureter, i. e., a hernia of the imperfect ureteral sheath with a protrusion of the ureter and consequent kinking of the ureter by the hernial ring thus formed.

RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE PELVIC URETERAL SHEATH

One realizes that the uterus is a relatively movable organ. On the other hand, the ureters follow the pelvic wall and near the bladder they begin to approach each other, so that the distance between the ureteral orifices is from 2 to 3.5 cm., varying in different cases and with the degree of distension of the bladder. As the ureters are relatively fixed, the relation between them and the uterus is dependent on the position of the uterus in the pelvis, whether in anti- or retroposition, high in the pelvis or in the descensus, and especially in the lateral positions of the uterus, for when the cervix is in the right side of the pelvis it will be much nearer the right than the left ureter, and vice versa. At the level of the internal uterine os the ureters may be 7 to 9 cm. apart and consequently would be some distance from the sides of the uterus; on the other hand, at the level of the external os they are *much nearer together* and their distance from the cervix may be less than 5 mm., depending on the size of the cervix and its position in the pelvis. It becomes evident that carcinoma cervicis uteri does not have to extend far into the parametrium either by direct extension or metastases, to reach or extend beyond the ureters.

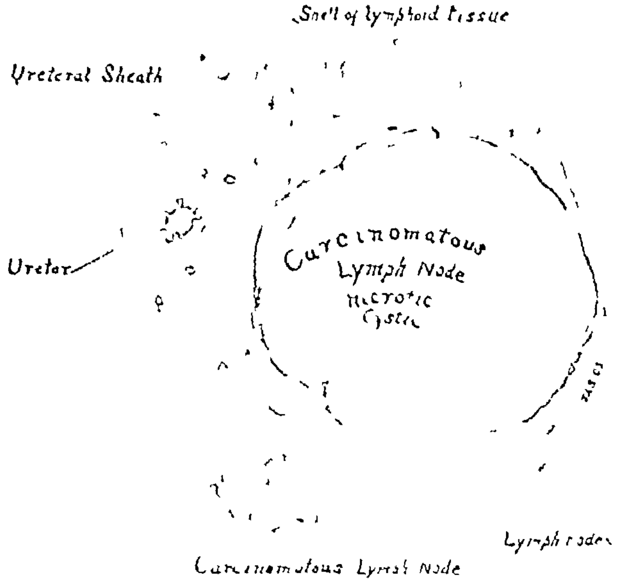

*Fig. 7.—Demonstrating the relation between a large carcino*matous lymph node and the ureter ×2½. From the same case as the section represented in Figure 6. This carcinomatous lymph node which had become necrotic and cystic is situated lateral to the right ureter and is the node sometimes found near the crossing of the uterine artery and ureter.

The relation between carcinoma cervicis uteri and the *ureters manifests itself clinically, in renal insufficiency* resulting from a compression of the ureters by the growth and in the frequency of accidental injury to the ureters occurring during operation for the removal of the growth, there having been in this hospital 19 cases of accidental injury to the ureter in 156 hysterectomies for carcinoma of the cervix, as compared with only 11 similar injuries in 4,513 other major gynecologic operations.

A study of fifteen specimens removed by the more radical operation, i. e., where an attempt is made to remove the lymphatics from the sides of the pelvis and with them the uterus and growth and all the parametrium, either dissecting the ureters free or else resecting the lower ends of them and implanting the renal end in the bladder, has shown that in twelve cases the growth has extended beyond the uterus, thus clearly demonstrating why hysterectomy so seldom cures this condition. In seven of the twelve cases there was a direct extension of the growth from the cervix. There were metastases to the parametrial lymph nodes in four cases, and metastases have been found in the other pelvic lymph nodes in six out of twelve cases in which they have been studied.

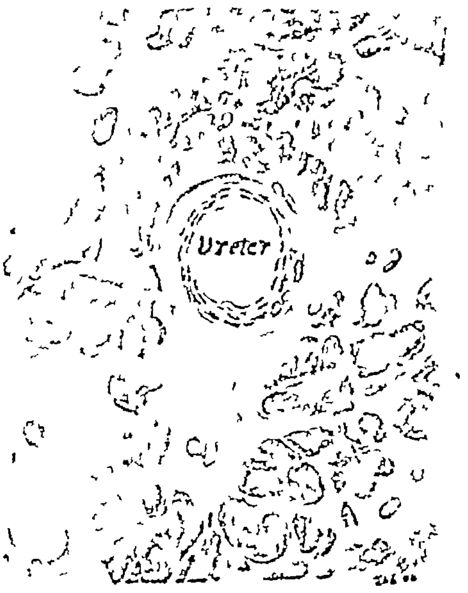

Fig. 8.—Demonstrating the invasion of the ureteral sheath by carcinoma cervicis uteri with resulting compression of the ureter ×1. The ureter is surrounded by the growth. The sheath being derived from the tissue through which the ureter passes can not be differentiated from it and the effect of the invasion of the growth into the sheath is to compress the ureter giving rise to hydroureter above.

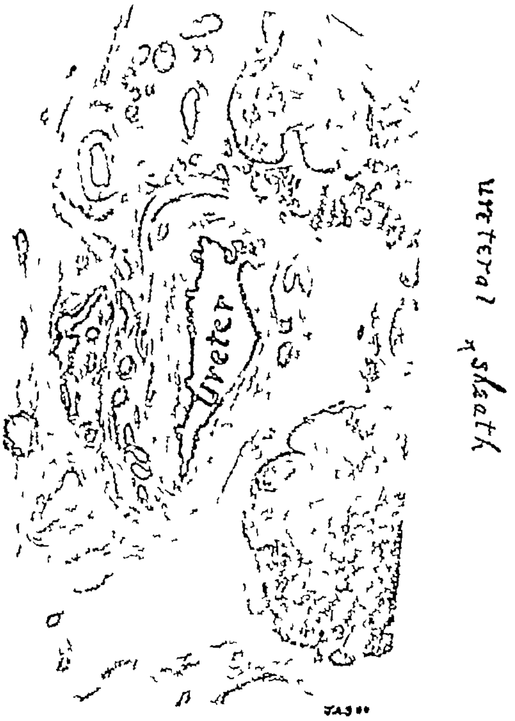

Fig. 9.—Demonstrating the hydroureter caused by the invasion of the ureteral sheath by carcinoma cervicis uteri ×1. From same specimen as the one shown in Figure 10 demonstrating the hydroureter caused by the ureteral sheath which has been invaded by the cancer.

Pathologically, the close relation between carcinoma cervicis uteri and the ureters shows itself:

1. In the distension of the cervix by the growth, thus diminishing the distance between the ureters and the cervix.
2. In the direct extension of the growth from the cer-

vix into the parametrium. As the distance between the ureter and the cervix may be less than 5 mm. in the lower portion of the parametrium, which, unfortunately, may be the part of the parametrium first involved by a direct extension of the growth, it takes but very little involvement of the parametrium to reach or extend beyond the ureters.

3. In the metastases to the parametrium which may occur:

(*a*) In the large parametrial lymph node occasionally found at the place where the uterine artery crosses the ureter.

(*b*) In the small parametrial lymph nodes scattered throughout the parametrium.

(*c*) In (intravascular?) lymph nodes which apparently protrude into the lymph channels like sponges and may be present in large numbers in these cases. These may be true intravascular nodes or the apparent lymph channel may be an artefact.

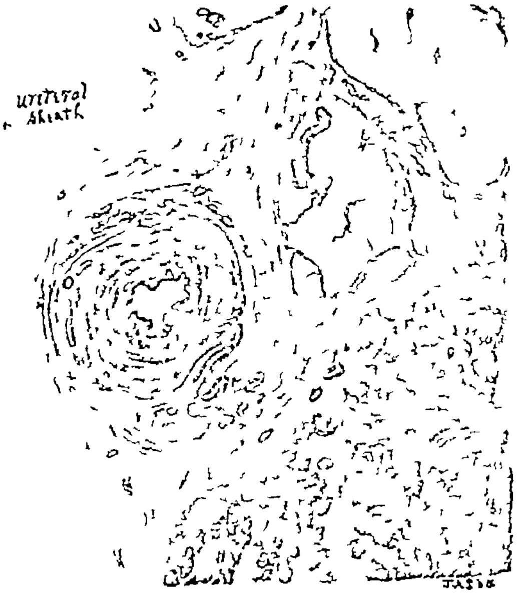

Fig. 10.—Demonstrating the reformation of the ureteral sheath about a ureter which had been freed in a more radical operation for carcinoma cervicis uteri. ×4. The lower 4 cm. of the left ureter was excised with a recurrence of carcinoma cervicis uteri. Primary operation six months before, when both ureters had been freed from their sheaths.

(*d*) In the other structures of the parametrium, as sheaths of nerves, ganglia, lymph spaces, etc.

Whatever the form of the invasion of the parametrium it does not have to extend far in order to reach the ureter. In Figure 5 is a drawing from a specimen in which the growth has extended out from the cervix and has involved the ureteral sheath and one can see that the latter has become hypertrophied, thus better protecting the ureter, while in Figures 8 and 9, from another case, the growth has surrounded the ureter with its sheath, compressing and invading the sheath, thus giving rise to a hydroureter above. In Figure 6 is a drawing showing a metastasis to one of the minute (intravascular?) parametrial lymph nodes, which is situated lateral to the double ureter. One finds in the parametrium of these cases minute parametrial lymph nodes which may have a diameter of not over 1 to 2 mm. The nodes have the same structure as the larger lymph nodes found throughout the body, and cancer may metastasize to them without causing any increase in their size. In some cases these nodes give the impression of having been made in a lumen, about them are apparent lymph spaces and the picture is that of an intravascular lymph node which protrudes into the lumen of the lymph channel like a sponge. These nodes may be the same as the other minute lymph nodes above referred to and the intravascular appearance may be an artefact. The entire subject needs further study.

An invasion of the larger lymph nodes sometimes found in the parametrium is shown in Figure 7. In this instance the node was situated lateral to the ureter and one can see that the portion of the ureteral sheath next to the node is markedly thickened.

ABILITY OF THE URETERAL SHEATH TO RESIST THE INVASION OF CARCINOMA CERVICIS UTERI

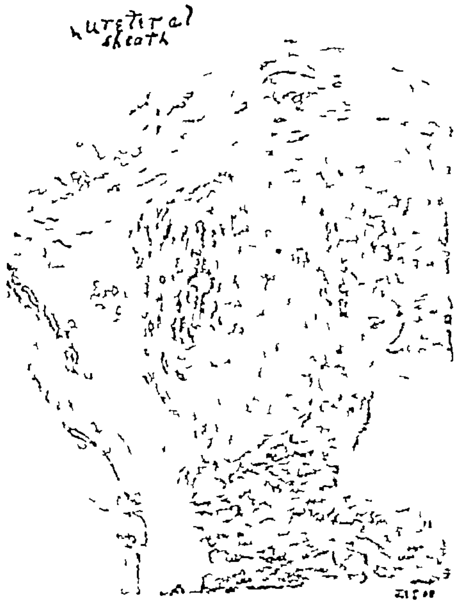

Fig. 11.—Demonstrates the destruction of a new formed ureteral sheath and the invasion and compression of the ureter by recurrence of carcinoma cervicis uteri. ×4. Same specimen as one shown in Figure 10, but at lower level.

As has been stated, the ureteral sheath is derived from the tissue along or through which the ureter passes, and on this account it is no more able to resist the invasion of carcinoma cervicis uteri than the rest of the tissue from which it is made, and its apparent ability to resist the invasion of cancer does not depend on any quality inherent in it, but on the nature of the growth. Growths differ greatly in their manner of invading the surrounding parts. One will find a large cancer, which in its growth tends to become encapsulated. The expansion of the growth seems to convert the surrounding tissues into a capsule, and the direct invasion of the surrounding tissue may take place, apparently, very slowly. On the other hand, in another growth there may be no evidence of expansion or encapsulation, but the growth extends in all directions into the surrounding parts, causing but a very little increase in the size of the parts involved. In Figure 5 the invasion of the ureteral sheath has apparently caused a hypertrophy of the sheath which would serve to protect the ureter, but later this very hypertrophy may compress the ureter and cause renal insufficiency. A similar condition is shown in Figure 7, in which the wall of the sheath next to the cancerous lymph node has become greatly hypertrophied, thus apparently protecting the ureter from an invasion of the growth. In Figures 8 and 9, from another case, one can see that the ureteral sheath apparently is affected by the invasion of the cancerous growth in no way different from the rest of the surrounding tissue

In another instance in which I had the opportunity of studying the relation between the growth and the ureter, I found that the growth had apparently broken into the ureteral sheath and had extended along the ureter within its sheath, and the latter in places was intact

REGENERATION OF THE URETERAL SHEATH

In November, 1903, I removed a cancerous uterus by one of the more radical operations The pelvic lymphatics were removed with the uterus and growth and the parametrium out beyond the ureters The latter were shelled out from the sheath, which was incised along its lateral surface A study of the specimen showed metastases both to the parametrium and pelvic lymph nodes, while the primary growth was apparently entirely removed The patient returned in April 1904, complaining of some indefinite pain in the left side of the pelvis Pelvic examination showed a lump about the size of a hen's egg apparently about the lower end of the left ureter In April, 1904, an exploratory operation was made and this lump proved to be a return of the cancer, probably from a minute lymph node which had been overlooked and was situated laterally and below the left ureter The mass, about the size of a hen's egg was removed with the lower 4 cm of the ureter and the renal end of the ureter was implanted in the bladder

An interesting pathologic feature about the case was that a new ureteral sheath had formed from the tissue in which the barred ureter had become imbedded as shown in Figure 10, and that this latter had become invaded by the cancerous growth as shown in Figure 11 where one can see that the growth has destroyed the portion of the ureteral sheath next to it and has pushed the ureter against the outer wall of the sheath, and soon the left kidney would be thrown out of function

CONCLUSIONS

1 The pelvic portion of the ureter is surrounded by a sheath which is apparently derived from the tissue along or through which the ureter passes and owes its origin to the peristaltic movements of the ureter, thus causing intermittent pressure on its surrounding tissue In favor of the above it may be said (*a*) That the sheath as such is absent in the fetus (*b*) that in a case of double ureter in which the ureters were close together, one sheath was common to both, (*c*) that its structure varies with that of the surrounding tissue, (*d*) the ureter deprived of its sheath may form another from the tissue in which it becomes imbedded (*e*) the sheath is developed best in parts where there is opposition to its contractions as in the pelvis, while in the abdomen, where it lies in loose adipose and fibrous tissue which offers very little resistance to the contractions of the ureter, a definite sheath is imperfectly formed or absent

2 Near the bladder the ureter is reinforced by muscle bundles, some of which apparently come from the bladder, as described by Waldeyer while others are apparently derived from the outer coat of the ureter, as described by Disse These muscle bundles also form a sheath about the ureter, with which the sheath previously referred to fuses While the two may be considered different portions of one sheath, on account of their origin and the fact that the lower end of the fibrous sheath apparently encircles the upper end of the other they should be considered as separate structures

3 The formation of a sheath about the abdominal portion of the ureter is very imperfect and in places apparently absent, which may possibly be explained on the ground that the surrounding tissue is loose and on this account offers little resistance to the contractions and expansions of the ureter

4 The inside of the sheath is filled with adipose tissue and fine strands of connective tissue in which are imbedded the larger vessels of the periureteral vascular plexuses, and also possibly lymph channels

5 While this sheath protects the ureter from the invasion of inflammatory processes and new growths, at the same time the local thickening of the sheath may interfere with the function of the ureter, thus giving rise to hydroureter and renal insufficiency and predisposing the kidney to infection, and in cases of ureteritis helps form the thickened ureter found in these cases

6 Stricture of the lower end of the ureter demonstrates the imperfect formation of this sheath, as where the sheath is well formed expansion of the ureter is restricted, causing a stricture, while above this place the loose tissue (sheath) about the ureter may give way, permitting the tortuous condition and kinking of the ureter sometimes found in these cases, i e , a hernia of the ureter through its sheath

7 The ability of the ureteral sheath to resist the invasion of carcinoma depends more on the nature of the particular growth than any quality of the sheath, for the latter is derived from the surrounding tissue and behaves toward the growth as does the rest of the tissue about it (*a*) In some cases one finds a marked hypertrophy of the sheath, thus temporarily protecting the ureter, and later this hypertrophy may compress the ureter (*b*) In other cases the ureteral sheath may be invaded with very little or no apparent attempt at hypertrophy, while in one case studied the growth gained access to the inside of the sheath and extended along the ureter within the sheath

8 This sheath is of importance in operations in the pelvis, for if the integrity of the sheath is preserved, that of the ureter is assured On the other hand, freeing the ureter from the sheath unless done with great care, is attended with dangers of ureteral necrosis Also in ureterovesical implantations the ureteral sheath should be preserved and sutured to the bladder, thus not only protecting the ureter but what is also of great importance the tension of the implantation is relieved

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EXCISION OF PART OF THE ILEUM AND ALL OF THE CECUM AND ASCENDING COLON

ILEUM AND TRANSVERSE COLON UNITED BY A NEW METHOD *

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The various ingenious methods used at present to unite the divided ends of the intestinal tract are prima facie evidence that no one method is satisfactory in all cases The trend of surgical opinion seems in the direction of suture, as against mechanical appliances, and this results from the fact that an operative procedure requiring for its performance special apparatus is thereby handicapped When the appliance is one that must be left in the intestinal canal till healing has been completed additional disadvantages, such as gangrene and obstruction, at once suggest themselves Undoubtedly mechanical contrivances are sometimes indicated but such instances should constitute the exception and not the rule

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard Charles A Powers and J F Moore

In a previous paper[1] I have given results of experimental work in intestinal suturing and attempted to demonstrate the great advantages that the continuous suture penetrating all the intestinal coats has over the interrupted They are uniform pressure, splint-like action and rapidity of application, all of which have been gone into in some detail in the paper mentioned, and will not be taken up here As a result of this experimental work a new method o intestinal union was evolved, which is particularly applicable to intestines of small or unequal caliber, as it is in these cases that suturing is most difficult and stricture most disastrous In bowels of uniform and ordinary caliber there is probably no better method of union than by the Connell continuous or the Cushing right-angled suture, penetrating all coats

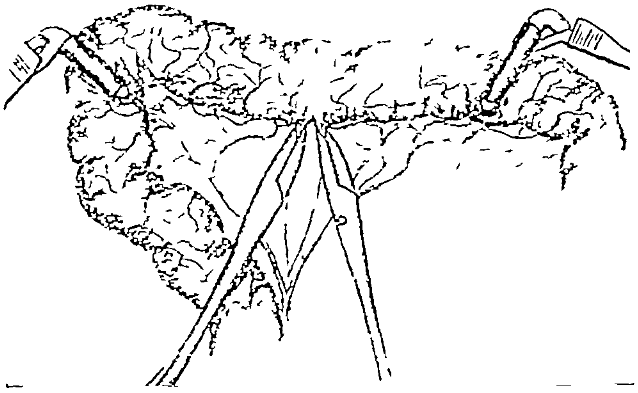

Fig 1

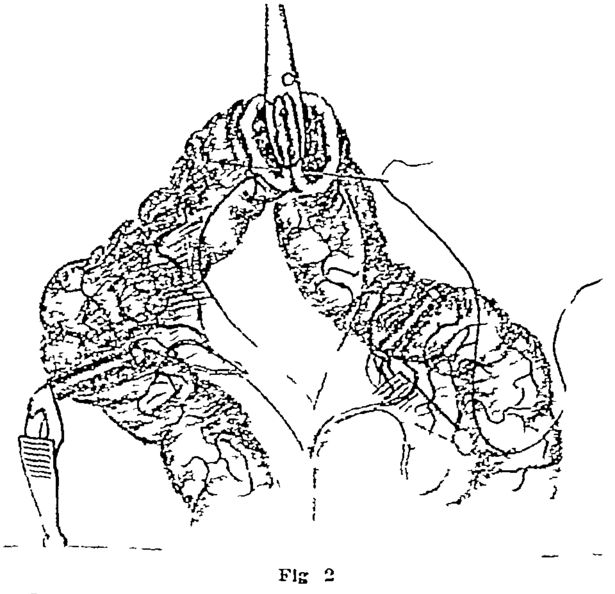

Fig 2

Intestines of unequal caliber frequently have to be united Not only does this condition obtain when the ileum must be joined to the colon, but it occurs pathologically after partial or complete obstruction in intestines of normally uniform caliber It is common knowledge that in cases of this character the bowel above the obstruction may become greatly dilated, when the surgeon is confronted with the serious problem of uniting the dilated segment to that of normal diameter Not only are the technical difficulties great, but, as pointed out by Treves, there is much danger of stricture resulting

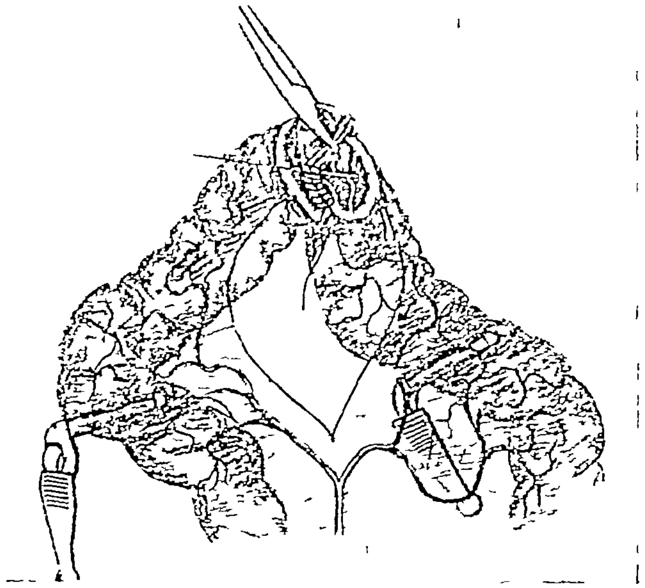

Fig 3

This new method seeks to simplify the technical difficulties and to obviate stricture in such cases, and in cases where the caliber, though uniform, is small The method will be described as applied to intestines of small diameter, then the slight modification necessary when intestines of unequal caliber are to be united will be given.

The intestinal clamps are placed on a single knot of a soft rubber tube used, as recommended by Ballance and Edmunds, to obtain coprostasis The mesentery is incised, in resection, a triangular portion may be removed The vessels at the mesenteric border of the intestine are clamped before being cut The forceps that clamp the vessels are also made to include both layers of perito-

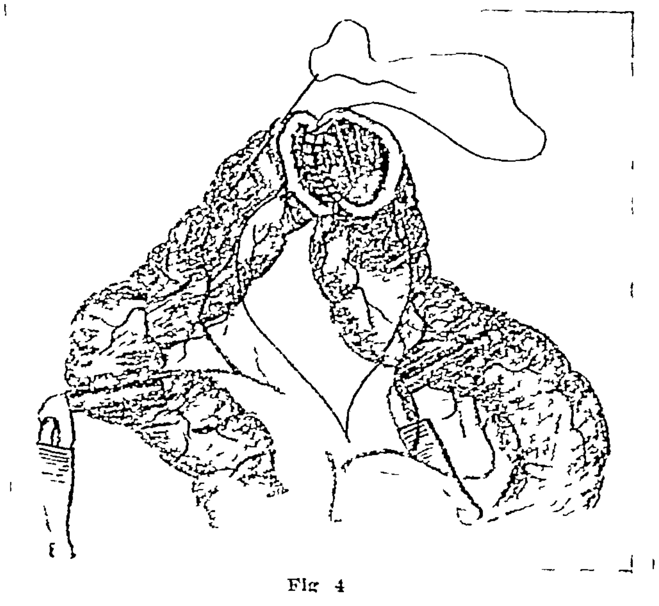

Fig 4

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[1] Annals of Surgery Nov., 1903

neum as they separate from the mesentery to encircle the bowel The tissue within the bite of the forceps is ligated with fine silk, so drawing the peritoneum over the area of bowel usually devoid of a serous coat, and at the same time closing the vessels This stage is shown in Figure 1 Next the bowel is divided or resected, as the case may be, and the convex borders placed in contact and held in this position with hemostatic forceps An ordinary No 8 sewing needle threaded with No 2 braided silk, transfixes both walls of the intestinal ends about half way between the mesenteric insertion and the forceps (Fig 2) The suture is drawn through and tied

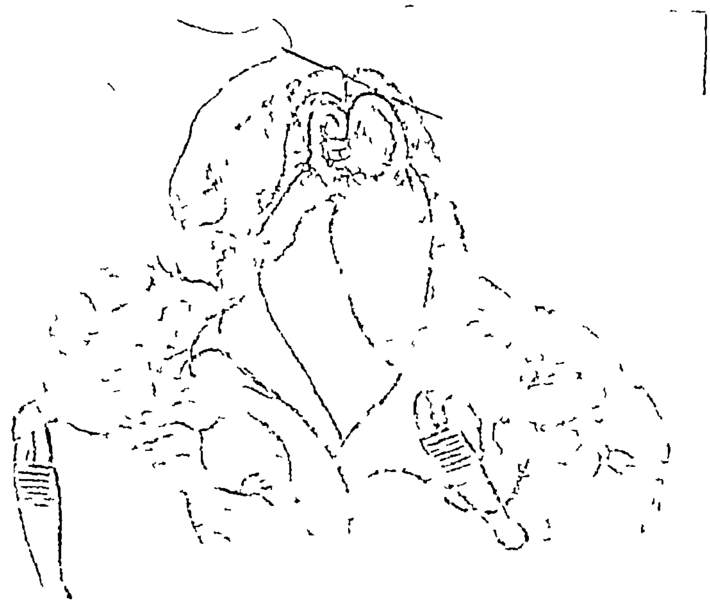


Fig 5

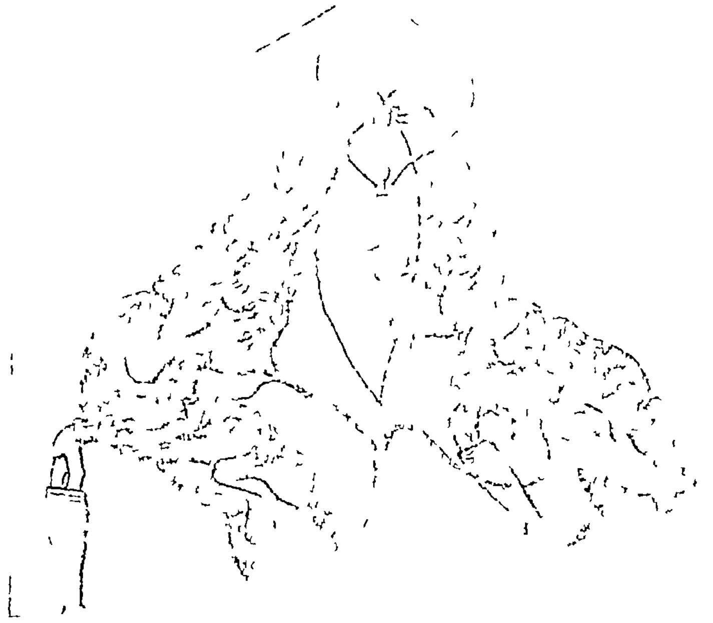
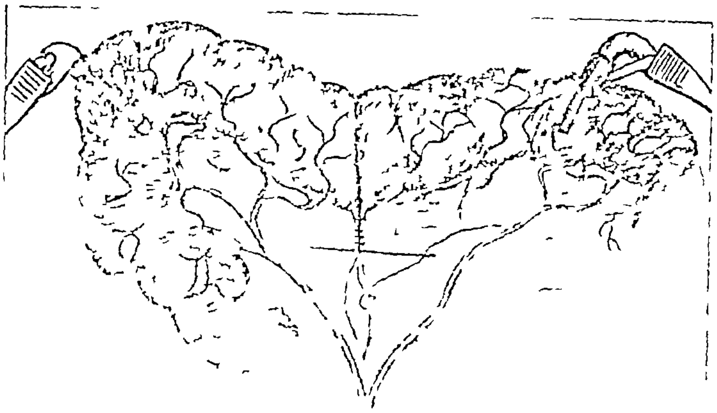


Fig 6

A portion of the intestinal walls forming a crescentic area the center of which is grasped by the hemostatic forceps, is now cut out with scissors, by cutting about one-third of an inch at a time and suturing the cut edges together with a continuous circular (overhand) stitch, penetrating all coats, and then cutting another one-third inch and suturing, and so on until the crescentic area is excised (Fig 3) Or the continuous Connell suture may be used, suturing first for a few stitches and then cutting The needle is inserted about six times to the inch and moderately firm tension is constantly kept on the thread with the left hand



Fig

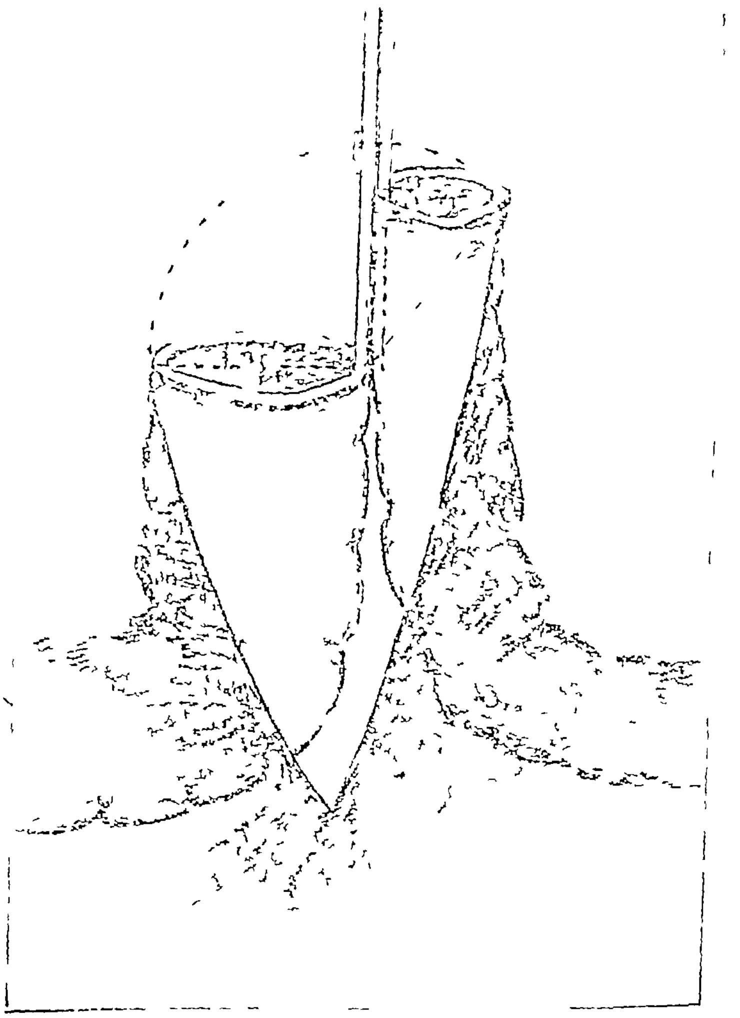


Fig 8

When this crescentic area has been removed, and the margins from which it was cut have been sutured in the manner described, the needle is thrust directly through the intestinal wall just to the right of its last puncture and emerges from the serosa The character of the stitch is now changed to a Cushing right-angled continuous suture, penetrating all coats, which readily inverts the remaining margins of the wound (Fig 4) The stitch is continued (Fig 5) with moderately firm traction on the thread When the first knot is reached it is invaginated, and the suture continued by two more insertions of the needle With these last two insertions of the needle as secure a hold as possible is obtained without penetrating to the mucosa The very last insertion is in the reverse direction of the other insertions, so that when the knot is tied it is partly buried (Fig 6) If desired it may be completely buried by a single mattress stitch, though I have never thought this necessary After this suturing is completed but little of the thread can be seen The bowel is then turned to its natural position, and with another needle, similarly threaded, the mesentery is sewed up with a continuous stitch (Fig 7) The needle is inserted in the mesentery at its junction with the bowel, and the first knot when tied acts as a mesenteric stitch It is placed close to the bowel though no attempt is made to include any portion of the intestinal wall in its grasp, as in the Mitchell-Heamner or Halsted mesenteric stitch

When bowel of unequal caliber is to be united, the two segments are clamped by taking a deeper bite on the small bowel than on the large, so when the mesenteric borders of both segments are lifted up these borders will be on the same level (Fig 8) One corner is caught with a hemostat and the suturing is begun at the other corner (Fig 9) All of the crescentic area is cut from the small gut except at the points where the hemostats are applied as here both bowels are clamped Otherwise the operation is finished as above described

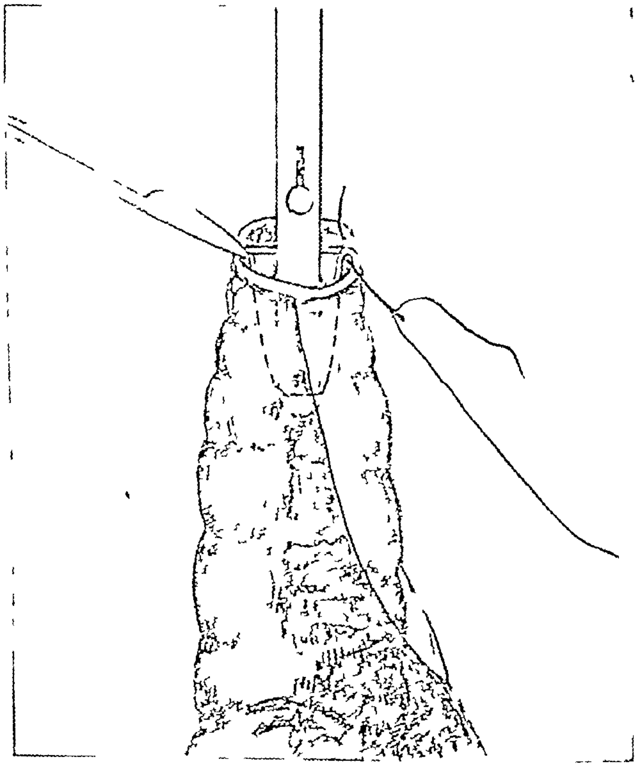


Fig 9

The following case may be interesting, not only from a surgical standpoint as involving a new method of operating but also pathologically for the tumor proved to be different from what it was thought to be at the time of operation

Mr P L, Mexican married cigarmaker aged 26 previous history negative has one child who is healthy There was a history of youthful dissipation before marriage His wife is healthy

History—Since 1900 he had been suffering from pains in the abdomen located chiefly on the right side and in the iliac region He had lost very much in weight a few months before coming under my care in April 1902 He was thin and there was considerable spasm of the abdominal muscles on the right side with the greatest tenderness apparently over the region of the appendix He was operated on April 7 1902 and the appendix removed Macroscopically, it showed the ordinary appearances of catarrhal appendicitis He was discharged three weeks after the operation in good condition, the wound having healed primarily For several months he improved and complained of little or no pain He gained materially in weight

About October, 1902, pains again set up of similar character to those from which he originally suffered They gradually increased He went to different physicians, who treated him for various ailments Continually growing worse, he finally came to me again, in May, 1903, a little more than a year from the time of operation His condition was pitiable He was excessively emaciated, and there were frequent paroxysms, from which he suffered intensely There was some pain all the time, but these attacks would come on during the day without any particular reference to what he had eaten, or to anything that he had done Another examination showed him to be in apparently normal condition, as far as kidneys, lungs and heart were concerned There was no evidence of any constitutional disease It was very difficult to make out anything in the abdomen, owing to his sensitiveness to pressure there, and to spasms of the muscles over the whole abdomen, particularly on the right side, consequently, examination was practically negative His bowels had been regular, there was some tympanites but no marked distension An exploratory incision was advised and this the patient readily consented to, with the understanding that any operation found to be necessary would be done

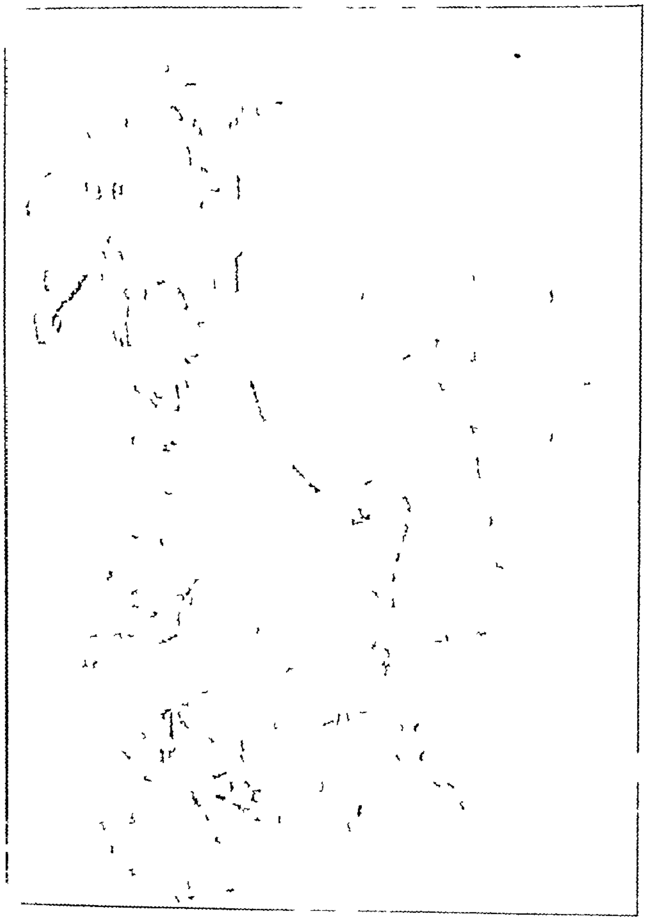


Fig 10—Photograph of specimen two hours after removal

Operation—June 2, 1903 A vertical incision was made through the outer edge of the right rectus muscle below the level of the umbilicus Cecum was adherent to the peritoneum at the site of the old operation scar made when the appendix had been removed. Cecum and most of the ascending colon were infiltrated by a neoplasm and greatly thickened. The glands in the mesentery were enlarged Nodules the size of buck shot, appeared in various portions of the colon and cecum About the middle of the colon a stricture had formed, which rendered the intestinal wall here very thick The photograph of the specimen (Fig 10), taken shortly after its removal, shows most of the points mentioned The pathologic process, supposed to be carcinoma, stopped at the upper part of the ascending colon The involved tissues were firm and elastic In order to remove the mesenteric glands, the last ten inches of the ileum were excised, though this intestine was not diseased The cecum and all of the ascending colon were cut away, going well into the healthy tissue of the transverse colon The vessels were very large They were ligated in sections But little blood was lost

The clamps used for coprostasis were covered with rubber tubing and once during the operation both clamps slipped, allowing some fecal matter to escape This was cleaned away as quickly as possible, but as the operation could not be done entirely extraperitoneally, owing to the short mesentery, infection of the peritoneum necessarily occurred An end to end union of ileum and transverse colon was made with suture according to the method described above for intestines of unequal caliber

The intestinal suture took sixteen minutes, which, with the dissection, ligating the numerous vessels, thorough toilet of the peritoneum, and suturing the abdominal wall, made the operation two hours in length A tube surrounded by gauze, and this wrapped with rubber tissue, was used as a drain.

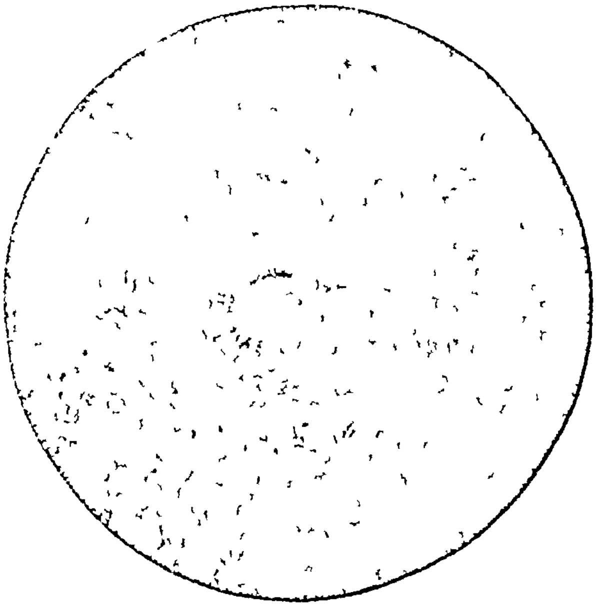


Fig 11 --Syphilis of the Intestine, thickened artery walls

The patient complained bitterly of pain as soon as he recovered consciousness, though pulse and general condition were satisfactory He passed gas from the bowel a few hours after the operation, and several large movements occurred during the first forty eight hours On the evening of the third day the temperature went up, drainage had practically stopped

In spite of thorough bowel movement, with no tympanites or indication of general peritonitis, the patient rapidly failed and died on the afternoon of the third day after the operation His clinical chart shows as follows

June 2, before operation—Temperature, 98, pulse, 78
June 2, after operation—Temperature, 98 4, pulse, 110
June 3—Morning temperature, 100 2, pulse, 105
June 3—Afternoon temperature, 101, pulse, 98
June 4—Morning temperature, 100 2, pulse, 100
June 4—Afternoon temperature, 102, pulse 128

Autopsy—Postmortem examination was made in the presence of a relative, and with the assistance of Dr A H White of El Paso About eight ounces of seropus had accumulated at the site of the incision, but was firmly walled off from the general peritoneal cavity by omentum and intestines There was no evidence of general peritonitis, and very slight tympanites The omentum was plastered over a portion of the suture line at the intestinal union, the site of the union itself making part of the wall of the cavity containing the seropus The union was in excellent condition, showing no leakage though it was slightly distended with gas and fecal matter A segment of the intestine including the union was removed, after separating adhesions, and thoroughly examined both by inspection and water pressure It was perfectly sound, without any apparent weak point The peritoneum over a portion of the removed segment was, of course, inflamed from the local infection Death was evidently caused by the local infection, which the patient's weak condition could not overcome Had the drainage been efficient or the patient's resistance greater, a fatal issue would probably not have occurred There was no satisfactory explanation for the drain not working

The photograph of the gross specimen shows some of the interesting features of the case (Fig 10) Particular attention is called to the stricture, to various nodules, and to two or three prominences in the mesentery, which were enlarged glands

A thorough microscopic examination of the specimen was made by Dr Greer Baughman, assistant pathologist to Memorial Hospital, to whom I am greatly indebted for the following report

Microscopic Examination of the Tumor—Pieces were taken from the tumor, from the intestinal wall and from the place where the tumor began to rise from the intestine These were hardened in the usual way, cut in collodion and stained with hematoxylin and eosin All of the sections showed a diffuse thickening of the arterial walls (Fig 11), and a proliferation of the endothelium lining the vessels, some of the smaller arteries seemed obliterated The thickening of the arterial walls was not limited to the small arteries

The tumor itself was almost entirely submucous There was an occasional infiltration of round cells through the muscle and in some places the superficial glands seemed to be worn away The cells composing the tumor were round A cheesy degeneration was noticed here and there In several of these cheesy nodes giant cells could be distinctly made out

The cheesy masses were made up of cell detritus, with a few nuclei The cells composing the tumor proper were irregular sized round cells, a few epithelioid cells were in the neighborhood of the cheesy masses

The thickening of the arterial walls, the presence of gumma like nodules, in which giant cells are noticed, and the submucous situation of the tumor led to the diagnosis of syphilitic gumma of the intestine

DISCUSSION

Dr O C Smith, Hartford, Conn—I congratulate Dr Horsley on his ingenious method of anastomosis, and also on his temerity to report a case which did not recover, and one where the diagnosis was made at autopsy Such cases are of vastly more interest than the simple ones which go on to a cure He refers to having operated for appendicitis Time was when nearly every physician and surgeon whatever else his failings, felt that he was proficient in obstetrics, but now nearly every surgeon believes that he can, at least, operate well for appendicitis Not infrequently the surgeon operating for appendicitis will encounter such a case as this for here in the region of the ileocecal valve is the most frequent location of cancer in the abdominal cavity We have had such cases at the Hartford Hospital where the most probable diagnosis was appendicitis and found instead carcinoma, and when a novice comes on such a case he may be at a loss to know what to do If he is timid or conservative he will content himself with performing colostomy above the obstructing growth If he is courageous he may attempt excision and entero enterostomy but by the time he has separated the ileopsoas fascia and dealt with the mesentery he is likely to be used up, but he still has to undertake the removal of the diseased portion of the intestine and perform the anastomosis He would have choice of several methods for the latter procedure, and he might not know which to select Had he better close the ends of both intestines and do a side to side anastomosis or should he close the end of the colon and implant the end of the ileum into its side, thereby imitating the natural junction of the ileum and cecum or should he bevel the end of the small intestine to make its circumference like that of the colon and do an end to end anastomosis' If he decided to use a mechanical device for the anastomosis, he would have to decide between those which are removed at the time of the operation as for instance, the Laplace clamp and those which are to be left in the lumen of the bowel, whether a button, a bobbin or a bone plate, and so it behooves every man who operates for appendicitis to equip himself with some definite plan for doing these more serious operations which may suddenly come to him as a surprise

Dr. A J Ochsner, Chicago—No surgeon has a very large personal experience in the excision of the cecum ascending colon and ileum, and for this reason the subject has never been thoroughly discussed before this Section It is one which should be discussed, because the success of the operation depends on the recognition of several simple principles It depends on this We must plan the operation so that the steps may be carried out with facility in order to reduce the amount of unnecessary manipulation The danger in every operation that has not been frequently performed is that we manipulate too much We find that in every form of surgery when the early mortality is exceedingly large it is not because the operation is especially difficult or dangerous but because we do not know how to go about it We kill the patients by unnecessary manipulation As to the manner in which this operation should be performed, I would say that a clamp should be placed on the ileum and the transverse colon at points beyond the diseased portion, and it should be remembered that we are in danger of wounding the buried portion of the duodenum If the two points of section of the ileum and colon are successfully grasped and the tissues behind the portion of the intestine to be removed are carefully secured with hemostatic forceps to prevent hemorrhage it is necessary only to avoid the ureter on the one side and the duodenum on the other As to the difference in the size of the two ends of the intestines to be united, the question of adjusting the size of large and small intestines should have been dropped many years ago Surgeons of experience will not meddle with this because it is absolutely unnecessary The two ends of the intestines are simply closed and a lateral anastomosis is made with sutures or an end to side anastomosis is made by inserting a Murphy button The same principles that we employ in intestinal surgery always come into play here We must have good nutrition in the intestine, there must be no tension or angulation and we must always see that serous surface is opposite serous surface By making use of these simple principles the operation may be performed within thirty minutes, and it is accompanied with as little danger as most of the operations on the intestine

Dr F Gregory Connell Leadville Colo —Perhaps the most important element in enterorrhaphy is the security the elimination of the danger of the yielding of the stitch The peritoneum and the muscularis do not guarantee this security while the submucosa does Hence the necessity of including the submucosa in the bite of the stitch Until comparatively recently it has been taught that it was possible to penetrate and not perforate this layer of the intestinal wall A short time ago this presentation of Dr Horsley's would not have been seriously considered and would have been looked on as dangerous We now know it is practically impossible to secure a proper hold in the submucosa without passing the suture through that layer The point as to the capillarity and infection would seem to be more or less theoretical, but it certainly would seem reasonable to suppose that this danger would be decreased by placing the knot within the lumen

Dr Horsley—I feel that some explanation should be made for taking about two hours to complete the operation There were adhesions to the abdominal wall the mesentery was short and thick and the vessels were large and tortuous The intestinal clamps slipped which caused delay by additional cleansing of the field After removal of the cecum and colon some involved mesenteric glands were found which necessitated resection of a portion of the ileum The time consumed in uniting the ileum and colon was sixteen minutes The specimen presented shows satisfactory union Dr Ochsner has called attention to the important surgical axiom that during an operation tissues should be manipulated as little as possible. Yet he recommends that big and small gut be joined by an end to side or a lateral method—thus leaving two or more distinct wounds to make and to close, whereas in the method described practically the whole process is an end to end union accomplished by a single row of continuous sutures This must be quicker and involve less manipulation than making an end to side or a lateral anastomosis and then closing the intestinal ends I have done the operation on the dog in eight minutes, with recovery

GALLSTONES IN THE COMMON DUCT *

ARCHIBALD MACLAREN, M.D
ST PAUL, MINN

Whether the formation of gallstones is due to chemical or to bacterial causes, it seems fairly certain that the stones are first formed in the gall bladder and are usually associated with recurring attacks of cholecystitis, usually of a subacute character Whether the inflammation of a gall bladder stands in the relation of cause or effect, it is apparently a clinical fact that, while we may occasionally see a primary cholecystitis without stones, we do not find a secondary attack occurring after any appreciable length of time without finding stones present either in the gall bladder or in the ducts I suppose it is possible for a patient to pass all of his stones through the common duct, and so cure himself, but my experience leads me to believe that such a result is almost impossible In fact, the passage into the intestine of a single stone is rare, and in the only case in which I have ever been able to prove such a passage and recover the small stone, there were many similar stones in the gall bladder, and the woman also had a chronic pancreatitis, evidently due to the temporary lodgement of the stone in the ampulla and consequent damming back of the infected bile into the pancreatic duct

After the formation of stones in the gall bladder they may, under favorable conditions, remain for long periods of time without causing any characteristic symptoms, the so-called slumbering gallstones

When, however, the gall bladder becomes infected or reinfected, gallstones being present, the stones apparently keep up the inflammation and irritate the gall bladder into recurrent and usually ineffectual colicky attempts to rid itself of its undesirable tenants

If the gall bladder succeeds in forcing a stone into the common duct it is very likely to lodge there, because the middle portion of this duct is more easily dilated than its distal extremity Mayo Robson finds that of all his gallstone cases one in five contains a stone in the common duct, while the Mayos have found one in seven at the time of the operation My own experience leads me to believe that Robson's figure is none too high

When a gallstone becomes lodged in the common duct there is an interference with biliary drainage, and infected bile from the gall bladder passes back into the hepatic ducts, setting up a more or less acute cholangitis After the lodging of a gall bladder stone in the common duct a later crop or a younger set of stones may be formed in the common or hepatic ducts behind it But the stone nearest to the intestine will be found to correspond in appearance and evident age to the gall bladder stones and not to the secondary hepatic duct concretions (Mayo)

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard Charles A Powers and J F Moore

It is of the utmost importance to entirely clear the ducts of all stones, for it is very distressing to our patients, and also to ourselves, to find that a secondary operation is necessary on account of a persistent biliary fistula, and this is the least of the evils that may follow

In one of my early cases I removed fifteen gallstones from an inflamed gall bladder, but the patient failed to improve, she grew steadily worse, and died on the fifth day At the postmortem examination I found several stones impacted low down in the common duct, no other cause of death being apparent

The presence of a stone in the common duct keeps up or aggravates the subacute cholecystitis which accompanies so many of these cases Contraction of the gall bladder wall soon takes place, which, if carried to its fullest extent, leaves the gall bladder a dense, hardened mass of cicatricial tissue, resembling a small tumor on the common duct Very recently I removed such an obliterated gall bladder that was not one-half inch in diameter

There are many analogies between the appendix and the gall bladder This chronic obliterative inflammation which affects them both is one of the closest and is another reason for cholecystectomy as against simple drainage of the gall bladder in cases when we believe that this process is well under way

Dr Maurice Richardson is unquestionably right when he says that cholecystectomy should be an operation of necessity, and not of choice, he is undoubtedly correct in his general propositions as to the advantages and greater safety of cholecystotomy over removal of the gall bladder, but occasionally, even in the moderately advanced cases of this class, removal of the common duct stone which is the cause of the obliterative inflammation, and draining of the infected gall bladder will not effect a cure

When should gallstones be removed from the gall bladder? There is still a considerable amount of uncertainty in the minds of many good men on this subject Kerr voices the sentiment of the greatest so-called conservatism, and sends many of his patients back to the internist and to the springs It would seem that perhaps his general mortality of 16 per cent, and his unexplainable mortality of 96 per cent in 75 "complicated cases" out of some 800 operations would be a strong argument against this plan of procedure My own answer to the above question would be that the operation should be done before the stones have reached the common duct or before other complications have had a chance to occur

If it were possible in any given case to predict the progress of a gall bladder stone, however innocent it might seem, then we should be justified in postponing removal but such a prediction is impossible Some cases give ample warning, in others, the lodging of the stone in the common duct is the first symptom of the disease or of its renewed activity

It would seem as though the only safe advice which can be given is that gallstones, wherever they are should be removed as soon as the diagnosis can be made with certainty As Mr E Stamnon Bishop in the London *Lancet* has recently said, no temporizing would be justifiable in the presence of a urinary calculus even though it were not producing active symptoms

If Mr Robson finds that in the cases calling for operation one case in every five has stones in the common duct, and if, as all agree, the mortality of the operation for removal of common duct stones is from 4 to 5 or more per cent greater than for ordinary opening and drainage of the gall bladder, ought we not to operate or remove the stones before they have started to migrate?

COMPLICATIONS

What are the complications produced by a stone in the common duct?

1 *Jaundice*—Jaundice is seldom caused by stones confined to the gall bladder An attack of jaundice with colic is very suggestive of the passage of either thick ropy mucus or of a stone into or through the common duct Jaundice is not necessarily produced by common duct stones, a single stone seems to cause jaundice more certainly than a larger number I have seen several stones packed into the duct when there had never been any jaundice at all, and this is not an uncommon occurrence Kerr says that he finds jaundice absent in 33 per cent of the cases where stones are lodged in the common and hepatic ducts As a result of chronic jaundice, we have a decrease in the ordinary coagulability of the blood leading to persistent and fatal hemorrhage from even unimportant operative procedures Chlorid of calcium probably helps to overcome this tendency, as has been suggested by Mr Robson

2 *Cholangitis*—This may be either acute, going on to hepatic abscess, or in a subacute form, frequently with chills fever, sweating, so intermittent in character as to strongly suggest the diagnosis of malaria, as was recently emphasized by Brewer

In this connection it should not be forgotten that syphilitic cholangitis occasionally gives this same train of symptoms, probably due to the inflammation of or to the formation of a small gumma in the common duct Dr J B Murphy recently reported such a case to me in a personal communication, and I have seen one such case myself, both of these cases were temporarily cured by a course of antisyphilitic treatment

3 *Peritonitis*—This from the ulceration through the duct of a large stone, is a not uncommon occurrence Some of these escape through the intestine others form local abscesses if the inflammation does not become general

4 *Inflammations of the Pancreas*—These are undoubtedly associated with impacted or passing choledochous stones The duct of Wirsung occasionally discharges into the duodenum through a separate opening but usually it unites with the common duct to reach the intestine through the ampulla of Vater In this latter case a small stone may obstruct the secretions from both the liver and the pancreas Infected bile may in this way set up an inflammation of the pancreatic ducts or the interference with the flow may allow the entrance of intestinal bacteria

The fact that pancreatic infections are rare as compared with biliary inflammations has always seemed to me to be an argument against direct intestinal infection as opposed to blood or other channels of contamination For, if the bacteria usually came up from the intestine the shorter and more direct duct of Wirsung would be the course which they ought to follow

5 *Cancer*—This is probably a late or an indirect result of the irritation following the prolonged presence of a common duct stone

It has been my misfortune to overlook stones in the common duct on several occasions some of which I have been able to remove at a later date Others have recovered with a persistent biliary fistula, probably due to choledochous stones In some other cases I have removed common duct stones in patients who had been previously operated on by other surgeons

The question naturally arises, how can we best prevent the leaving of stones in the common duct? By placing a sand bag under the small of the back, and by making an ample incision, say five inches in length, and raising and rotating the liver so as to expose the common duct, according to Robson The small, short incision, while giving room enough to deal with the gall bladder, is not sufficient for thorough exploration of the common and hepatic ducts One should make it a rule to thoroughly explore the common duct by passing a finger through the foramen of Winslow in all gallstone cases before the gall bladder is opened and this should be done even in cystic gall bladder cases due to an impacted stone in the cystic duct for even in this class of cases other stones may at times be found in the common duct

If the common duct is dilated, and especially if the gall bladder is small and contracted, there is probably either an impacted ball valve or a floating stone in the common duct and under these conditions it is justifiable to open and explore the duct with spoon probe or the finger, as advised by Mayo, who also says that the finger is the only certain instrument of exploration

I have seen several ducts which contained stones into which I was not able to pass the finger without using undue force, but when it is possible the finger should be passed into the duct, as a small stone especially if it be lodged near the ampulla can at times only be discovered in this manner

After removing a stone from the common duct, how shall we treat the opening? Usually by draining the duct We hear of late a great deal about drainage of the hepatic duct I can not see that the passage of a tube up into the duct can have any advantage over simply stitching the end of a rubber drain into the opening A continuous or purse-string catgut suture which catches the tube on either side will close the opening in the duct and prevent the bile from passing into the peritoneal cavity If the gall bladder or stump of the cystic duct after cholecystectomy, is treated in the same manner, just as thorough drainage will result as if the tube were passed deep into the common or hepatic duct

The common duct tube can be removed as soon as the catgut softens while the gall bladder tube can remain until the bile becomes sterile

I have operated on fifteen gallstone cases during the past seven months in five of which I found stones in the common duct, at the time of the operation and one other vomited up a gallstone after having an attack of colic the day after the drainage fistula closed Fourteen of these cases recovered, and one died The death occurred in a young woman of 27, who had been sick one year had suffered for three months with constant fever chills and chronic jaundice At the time of operation the gall bladder was found thickened inflamed and adherent containing four gallstones while there were eight in the common duct Infected bile flowed very freely from the time of the operation until her death

She died on the fifth day with symptoms of septic meningitis and cholangitis, her liver reaching to the crest of the ilium At the partial postmortem no peritonitis was found

DISCUSSION

ON PAPERS BY DRS RICHARDSON* AND MACLAREN

Dr Joseph D Bryant, New York City—I believe in free drainage of the hepatic ducts, and regard gallstones as agents of trouble that ought not to be lightly considered As an earnest of the latter fact, we have only to note the outcome of the case of an apparently innocuous gallstone affliction just cited by Dr Richardson Probably the handling of the gall bladder with its burden of gallstones precipitated the attack that followed so soon after the manipulation of the organ If this be true, then, indeed, is emphasized the importance in such cases of all bodily movements, especially those of a lifting, straining or jarring nature that might easily disturb the relations of the gall bladder and its contents, arousing to renewed activity the infecting agents that some time since gained a substantial foothold there In other words, it seems to me that in the presence of gallstones in the gall bladder one has but to recall the fact that irritation produced by their manipulation or movement may beget prompt and perhaps continuous trouble So far as my experience goes, drainage seems to be an important proposition We must remember that the bile ducts are of a limited diameter and more or less firmly related to the contiguous liver tissue They possess the characteristics of mucous membrane, and are subject to the same inflammatory processes Undoubtedly infection forms very largely the basis of all inflammatory troubles at this situation Infection gains entrance chiefly by way of the duodenum and the gall bladder The mucous membrane of the ducts in such instance as it seems to me becomes increased in thickness obliterating the lumen of the ducts completely in some cases and in circumscribed portions of the ducts in other instances causing thereby interference with the discharge of the bile into the larger ducts and no doubt, circumscribed collections in the smaller Since the flow of bile from the liver is accomplished under a low degree of pressure it becomes very easy to understand how its free discharge should be encouraged by drainage under these circumstances Early and prompt drainage in connection with operations should be practiced in proper cases If one but stops for a moment to make comparison between infected liver structure and infected portions of other parts of the body making the same application of the principles of drainage in both, it seems to me that the illustration of the need in gall ducts is complete As to the points of drainage We have two distinct points of entrance of infection one by way of the gall bladder and the other through the common duct Therefore, these points—the common portals of entrance—should be the ones through which it seems best that drainage should be established in proper cases That the gall bladder should be utilized for the purpose of drainage seems to me to be a perfectly clear proposition especially since we know that the gall bladder and the cystic duct are common channels of infection and therefore should become at once the direct channels for the discharge of the infecting agents To remove the gall bladder, leaving an infected cystic duct would perpetuate the continuance of infection I regard drainage of the gall bladder in suitable cases in the manner recommended by Dr Richardson as the proper course to be pursued and I regard drainage of the common duct for similar reasons as being a meritorious proposition It is hardly enough to drain the gall bladder only for the relief of infection associated with the common duct

Dr C O Thienhaus, Milwaukee—I shall confine my remarks to one question which nowadays seems to occupy the most prominent place in scientific discussions of gallstone surgery That is the methods of different operative procedures in vogue for stones impacted in the common duct When we consider the anatomy of the common duct and its anatomic relationship with the duodenum, we can differentiate three distinct localities in which stones in the common duct are found and are liable to get impacted, and according to which different methods of operative procedures must be used

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*The paper of Dr Richardson appeared in The Journal September 3

Stones in the common duct may be found, first, in that portion which lies above the duodenum, the so called supraduodenal portion of the common duct, second, stones may lie in that portion of the common duct which is situated within the wall of the duodenum and near the papilla, the so called papillary portion of the common duct, third, stones may be impacted in that portion of the common duct which lies behind the duodenum, the so called retroduodenal portion of the common duct In the first class, stones in the supraduodenal portion, when there exists no possibility (and such a possibility is extremely rare) to press them back through the cystic duct into the gall bladder, supraduodenal choledochotomy with drainage of the common duct, or, better, the hepatic duct is the method par excellence For the second class, impaction at or near the papilla, the transduodenal route as first described by McBurney, 1891 (lithotomia transduodenalis), is the best method, when attempts to dislodge the stone into the duodenum by manipulation have proven futile This method must be followed by drainage of the gall bladder or the supraduodenal portion of the common duct For the third class, stones impacted in the retroduodenal portion, when they can not be dislodged upward into the supraduodenal portion, retroduodenal choledochotomy or transduodenal choledochotomy come into question and are rival operations Retroduodenal choledochotomy was first advised by Lane, 1894 (Clin Society Trans, p 149) An incision is made 3 or 4 cm long parallel to the duodenum descendens through the peritoneum on the outer side of the duodenum (in the same manner as advised by Kocher in cases of gastroduodenostomy) After blunt dissection the duodenum can easily be detached and turned over to the left side, and there by the retroduodenal region of the common duct together with the pancreas, be freely exposed Then the pancreas is dissected (either by blunt dissection, the thermocautery or the knife), the choledochus opened and the stone extracted

Against this excellent method, used by Czerny, Kehr, Kocher, DeQuervain and others with good results, I have but one objection, and that is, that it can only be employed when there are no dense adhesions to be dealt with, and such cases are comparatively rare When we find, as is usually the case (when stones are impacted in the retroduodenal space for a longer period of time), the duodenum, pancreas and common duct matted together in one mass and surrounded by dense adhesions, retroduodenal choledochotomy is inadvisable and transduodenal choledochotomy followed by choledochoduodenostomia interna has to be preferred It is performed in the following manner Opening of the duodenum, incision through the posterior wall of the duodenum to the impacted stone or near the papilla, extraction of the impacted stone and of other stones higher up in the common duct by milking the choledochus from above downward, the index finger of the left hand being introduced into the foramen of Winslow and the thumb lying above the duct When the common duct is freed from stones it is sutured to the posterior wall of the duodenum, thereby producing a new anastomosis between the common duct and the duodenum Then the duodenum is closed and either the gall bladder drained or the common duct from a supraduodenal incision This latter method I used two years ago in a case which I have cited in the Annals of Surgery, 1902, where the woman was jaundiced for over one year and had lost 100 pounds in weight She is perfectly well to day and has gained over seventy pounds since the operation I am not in favor, in cases of impaction of gallstones in the retroduodenal part or the papillary portion of the common duct, of performing a supraduodenal choledochotomy and introducing scoops and other instruments in the dark to dislodge the stone upward Such attempts have been often followed by severe lacerations of the duodenum and the pancreas and subsequent infection or death from starvation (duodenal fistula) Some have objected against transduodenal choledochotomy that it may be followed by infection from the inside of the duodenum In my opinion, the opening of the duodenum is not more dangerous than the opening of the bowel in any other part of the gastrointestinal tract, and statistics have shown that transduodenal choledochotomy is not more dangerous than supraduodenal choledochotomy

Dr J E Moore, Minneapolis—In my experience in gall bladder surgery, I have been impressed with the importance of saving that organ when possible to carry out the very suggestions made by the writer to-day I learned very much from a very recent experience It emphasized the importance of early operation, of thorough drainage, and that it is wise not to give up the patient as long as he is alive The patient was a little girl, 13 years old, who had been jaundiced since she was eighteen months old She had repeated bellyache all this time and had been under the care of a general practitioner The diagnosis recently made was stone in the common duct and there was a clear history of gallstone colic The child's age interfered with early diagnosis, but an operation was performed and stones were found in the gall bladder and common duct I depended on drainage and made what I supposed was sufficient drainage, but it proved to be not sufficient I introduced a cigarette drain with a good sized roll of gauze surrounded by rubber tissue, and all went well for three days The patient was jaundiced after the operation and on the fourth day I was informed that she had a convulsion The temperature was 103, the pulse 130, and I went to see her immediately I decided it was not a case of peritonitis, but that she was suffering from cholemia I thought I could stop the convulsions although when I got her on the table she was semi comatose I used chloroform, removed the drainage from the abdominal cavity and took a blunt instrument and made pressure on the loin Over this I made an incision and found a pint of bile. I irrigated the abdominal cavity with several gallons of normal salt solution, established drainage from the loin, and she is now convalescing

Dr Ernest Laplace, Philadelphia—Dr Richardson is right in saying that a gallstone should be removed as soon as diagnosed Drainage of the ducts is also essential When a rubber tube is used the surrounding parts should be packed with gauze so as to drain whatever leakage that might take place I insist on an abdominal incision long enough to allow easy access to the entire field of operation I have known gallstones to have been accompanied by local malignant disease to which they possibly were the predisposing cause

Dr William J Mayo, Rochester, Minn—I agree with Dr Richardson most fully that early operation in these cases stands in exactly the same position as does the early operation for appendicitis When the operation for appendicitis was done only when the patient was in a most serious condition the mortality was high and our responsibilities to the public were largely increased It used to be said that if surgeons could not give better results they had better leave the cases to Nature, but to day the practitioner himself must bear a part of that responsibility If he does not send his case to the surgeon soon enough he must bear part of the responsibility for the result, and this will be equally true in connection with gallstones There is one particular point that Dr Richardson has brought out, and that is the necessity for bile drainage in probably about 40 per cent. of the cases I can not quite agree that the operation of cholecystectomy is an obsolete one We find ourselves performing this operation more frequently, but it should be for certain reasons If one has a cystic gall bladder where the stone is obstructing and the gall bladder is free from bile, it can be removed, the cystic duct can be ligated and I have seen no harm follow because Nature has already thrown a ligature in the shape of an obstructing stone Some mild cases of cholecystitis with or without gallstones that have given trouble at various times, but are at the time of operation in a quiescent stage, may be removed, and so far as our experience goes, no harm results—but rather good All of these cases, however, should be drained, for occasionally there will be bile pressure and leakage A light catgut ligature protected by a drain is satisfactory If the cystic duct is obstructed by a stone or stricture, leaving a thick walled functionless gall bladder which may really be followed by cancer, I believe these gall bladders are better out You may say that you can take the stones out of the gall drainage I have never seen sepsis result from so doing As to the common duct stones, I think these calculi should be removed and at a primary operation, as this is the safest time You may say that you can take the stones out of the gall bladder and drain, and later remove those in the common duct, but the second operation is more dangerous than it would have been at the primary It is wiser to remove all the stones at one primary operation As to the McBurney operation of duodenocholedochotomy, it is a good operation in a certain class of well selected cases, but it is better to make this operation in conjunction with the operation on the common duct If you open the duodenum and take away the stone there, it may not be the largest stone present, and others may still remain in the duct, therefore, the common duct should at the same time be opened, explored and drained Remove all the stones if you can and you should nearly always be able to do so In rare cases it may be wiser to do a two time operation, and occasionally a stone will be overlooked with the most experienced

Dr J C Bloodgood, Baltimore—I hope, in the future, that if I am asked to discuss a paper, that the chairman will be good enough to allow me to speak before Dr Mayo, because when one speaks after him on the subject of gallstones there is but little left to say but "ditto" Our experience in gall stone surgery has brought out conclusions very similar to those just expressed by Dr Mayo The two papers under discussion impress us that there is a change in feeling toward the operation of cholecystectomy After this operation was introduced by Finney some years ago, many surgeons throughout the country were influenced to perform cholecystectomy rather than cholecystostomy in the larger proportion of cases irrespective of the condition of the gall bladder Dr Richardson in his paper did not discuss this point, probably because in a very recent article he has given his view in regard to the indications for cholecystectomy In this paper Dr Richardson limits the indications for cholecystectomy The surgery of gallstones may be divided into three groups First those cases in which cholecystostomy and drainage of the gall bladder are sufficient, second, those in which removal of the gall bladder (cholecystectomy) is indicated, in this group, in some instances, the cystic duct may be ligated, in others it should be left open and drained In the third group either a simple or complicated operation on the common bile duct is demanded. As a rule cholecystectomy should not be performed especially in the complicated cases Cholecystostomy is frequently indicated I prefer, after duct operations drainage through the gall bladder rather than through the common duct The experience in Dr Halsted's clinic is most favorable to the immediate suture of the duct I have recently received communications from all cases of gallstone operated on in the Johns Hopkins Hospital surgical clinic and from a good many outside cases These communications have impressed me with the uniformly splendid results after cholecystostomy in appropriate cases Secondary operations have never been necessary except in those cases in which all the stones were not removed either because they were overlooked (all early operations) or because the condition of the patient contraindicated the necessary manipulations The experience in gallstone surgery during recent years most emphatically indicates the earliest possible removal of gallstones and the drainage of the gall bladder in cases of inflammation without the gallstones The chief mortality after these operations is found among those cases in which the stone is in the common duct and in which jaundice has been present many months. In every one of these instances there should have been no difficulty in making the proper diagnosis at a much earlier stage of the disease

Dr. Richardson—The main subject of my paper is the drainage of the biliary passages and the indications for operation In answer to Dr Bloodgood I believe certain gall bladders must be removed whereas others are better drained The best practice is, when possible, the preservation and drainage of the gall bladder In those cases in which we must remove the gall bladder we are learning the immediate and the permanent effects of cholecystectomy When I take out the gall bladder I am having trouble, but just what this trouble is I do not yet know Whether this trouble is caused by inflammatory processes about the remains of the gall bladder and the cystic duct, by gallstones, by adhesions, or by neoplasms, time only will tell Drainage is the chief thing to accomplish—whether we provide it through the gall bladder, the cystic, the hepatic or the common duct I am convinced that cholecystostomy is the preferable operation whenever the gall bladder is normal or comparatively normal Diseased gall bladders, with hypertrophied and contracted walls, and gall bladders that are friable poorly nourished and gangrenous, I should remove

Dr MacLaren—I have had the same experience as Dr Moore, due to leakage of bile about the drain, either from the gall bladder or the common duct The method which will most frequently prevent such a leakage is a purse string suture of catgut tied down tightly on the rubber drainage tube This is easily applied about an opening in the fundus of the bladder and it is almost as easily placed about a common duct opening My experience with a number of these cases is that they drain freely and that there is no difficulty in keeping the patient dry while the tube is in place

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THE ANATOMY AND RADICAL CURE OF INGUINAL HERNIA *

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An accurate conception of the anatomic relations of the inguinal region in its normal condition and again when a hernia is present is essential to the surgeon The inguinal canal as we find it during the course of an operation differs somewhat from that as we know it from our dissections

Normally there is no inguinal canal after the testis has descended into the scrotum Even prior to the migration of the testis from its position just below the kidney to the inguinal canal, the latter contains a pouch or diverticulum of peritoneum which is the vaginal process

If the testis remains in the inguinal canal or even in the upper part of the scrotum (just outside the external abdominal ring) this pouch remains open and a hernia results in the majority (50 per cent) of cases of undescended testis

The same sort of a pouch fills the inguinal canal in the female independent of the descent of any organ of generation

When the testis has descended into the scrotum in the normal manner there is no longer an open inguinal canal but only a vas deferens and its vessels in the male and the round ligament in the female

It is of more than passing anatomic interest to study the constituents of the various walls of the normal so-called inguinal canal because many of the modern operations for the radical cure of hernia are based on the desire to restore these conditions as fully as possible

One of the first points to remember is that the internal or deep abdominal ring (see Figs 3 and 5) is situated about an inch above and somewhat to the outer side of the middle of Poupart's ligament The anterior wall of the canal is thus formed by both muscular (internal oblique) and fascial (external oblique) aponeurosis fibers in its outer third In its inner two-thirds the anterior wall is formed by the external oblique aponeurosis alone (see Fig 4) strengthened by the intercolumnar fibers

These are the conditions as they exist in the male In

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard, Charles A Powers and J F Moore

the female the internal oblique, on account of the greater length of its attachment to Poupart's ligament (see Figs 2, 3 and 5), assists in forming the anterior wall in its outer two-thirds This greater protection and the fact that there is no structure to transmit which varies so in size as the cord, probably accounts in part for the lesser liability of females to inguinal hernia

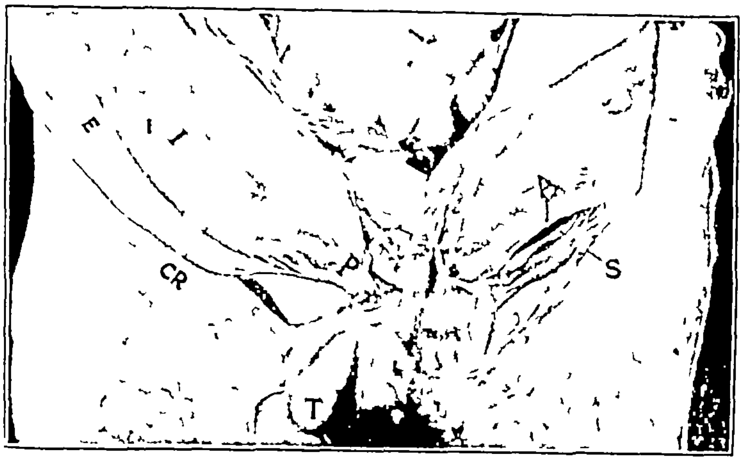

Fig 1 —Dissection of inguinal region Observe undescended testis on right side E External oblique aponeurosis turned back I Internal oblique muscle P Conjoined tendon T Non descended testis CR Cremaster muscle S Spermatic cord A Arching fibers of internal oblique and transversalis

There can be no longer any question that where the cremaster muscle or its fascia are well developed, they play a rôle in protecting the cord on the anterior wall (Fig 1)

The posterior wall of the inguinal canal in both sexes is formed by the transversalis fascia, which is somewhat strengthened by the conjoined tendon of the internal oblique and transversalis muscles just behind the external ring, i e, in its inner third

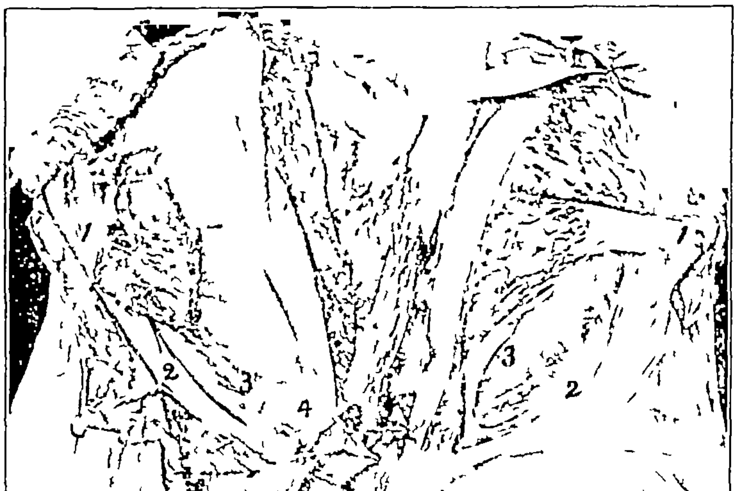

Fig 2 —Dissection of inguinal region of female 1 Anterior superior spines of ilium 2 External portion of aponeurosis of external oblique turned back 3 Internal oblique muscle showing attachment to outer two thirds of Poupart's ligament 4 Conjoined tendon and sheath of rectus

The roof or upper wall is formed by the arching fibers of the internal oblique and transversalis muscles That this arch is shorter in females follows from the greater attachment to Poupart's ligament referred to above (Fig 2)

The floor of the inguinal canal is formed by the shelving edge of Poupart's ligament and when the cremaster is well developed, also by this portion of the original internal oblique muscle

In the child the canal is relatively shorter and straighter than in the adult

In an examination of twenty-five male and nine female normal adult cadavers Dr R C Turck of Chicago[1] found that the average length of attachment of the internal oblique was to the outer two-thirds of Poupart's ligament in the male and to the outer four-fifths of the same structure in the female Drs A H Ferguson and Turck state that a smaller extent of attachment is a factor which greatly favors the origin of an oblique inguinal hernia through taking away one of the anterior supports of the deep or internal ring My own observations have just begun in regard to this point, but in ten male cadavers which I have so far examined the findings were those which are given in the standard text-books of anatomy (Henle Cunningham, Gray, Joessel and Hughes), viz that the internal oblique is normally attached to the outer half only of Poupart's ligament

I mention this fact because one of the arguments advanced in favor of not transplanting the cord and for suturing the internal oblique to Poupart's ligament in front of the cord is that it restores the normal anatomic conditions There are undoubtedly cases of hernia in which a congenital deficiency in the insertion of the internal oblique exists, but their number is a small one

I have taken especial care to observe the internal oblique in a large number of hernia cases and have never observed a case in which the insertion of this muscle was less than to the outer half of Poupart's ligament

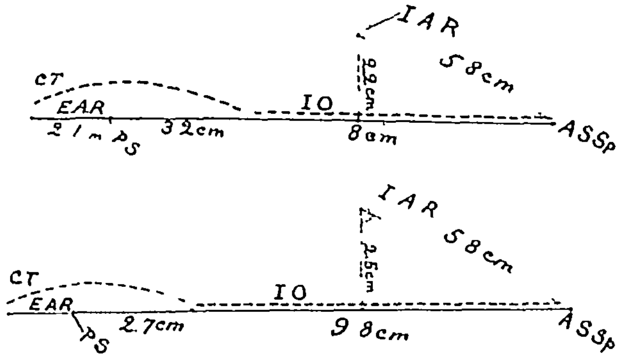

Fig 3 —Taken from article by Dr R C Turck Relation of normal attachment of internal oblique muscle (IO) to Poupart's ligament and to the internal or deep abdominal ring (IAR) CT Conjoined tendon EAR External abdominal ring PS Pubic spine AS SP Anterior superior spine of ilium The upper figure represents conditions in 25 adult males the lower in 9 adult female cadavers

We must look farther for the anatomic factors which favor the origin and development of oblique inguinal hernia, and these are the laxity of the support which the internal ring and posterior wall receive from the transversalis fascia and conjoined tendon

As regards the latter, J B Blake found in twenty-five dissections that the extent of the insertion of this tendon seldom exceeded five-eighths of an inch This has been confirmed by the observations of Bloodgood

A study of the recurrences of radical cure cases shows that in the majority it takes place at or near the internal ring This may be due in part as Halstead and Bloodgood have shown to the space which must be left for the spermatic veins unless they are ligated and dropped back In other cases it is no doubt due to the fact that the muscles which were sutured to Poupart's ligament have retracted or that too much faith was placed in the strength of the conjoined tendon and this part of the canal not sufficiently strengthened

The smaller herniæ, especially if congenital do not cause much enlargement of the internal ring or pushing aside of the arching fibers of the internal oblique or transversalis These structures normally act as a sphincter when the abdominal muscles are contracted, to help strengthen this weak point in the abdominal wall

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[1] The Journal A M A April 15 1899

The larger herniæ, such as the scrotal, tend to drag on the inner edge of the deep or internal ring so as to cause a considerable enlargement of the same

Every surgeon who has occasion to perform many radical cure operations will frequently encounter cases in which the internal ring has become so greatly enlarged as to lie opposite the external At the same time the gap lying between the arched fibers and Poupart's ligament and the edge of the rectus becomes a considerable one These are the cases in which a plastic operation with the employment of strong structures to fill the defect is needed It is the object of this paper to show that the modification of the original Bassini operation first suggested by Dr E Wyllys Andrews in 1895[2] is the ideal one to use in such patients as well as in those where the defect is not so great.

Before describing this operation permit me to briefly review the chief objects of the various methods of radical cure which are being most frequently employed in this country and abroad

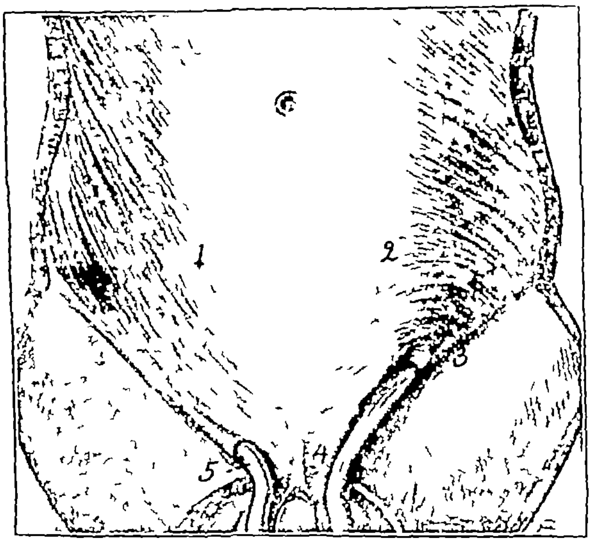

Fig 4—Dissection of inguinal region (superficial layers) 1 Placed on aponeurosis of external oblique muscle 2 Placed on aponeurosis of internal oblique muscle 3 Extent of attachment of internal oblique to Poupart's ligament (outer half) 4 Conjoined tendon of internal oblique and transversalis muscles 5 Spermatic cord emerging from the external abdominal ring

The original Bassini operation (see Fig 10) aimed to strengthen the normally weak posterior wall of the inguinal canal by suturing the internal oblique and transversalis muscles to the inner aspect of Poupart's ligament behind the cord Coley made a valuable modification by inserting a suture above the cord, thus enabling the operator to still further reduce the space left at the upper angle of the wound for the passage of the cord and its vessels The fact that in 917 of his cases there were only 11 recurrences certainly speaks well for this operation These were all cases in which the cord was transplanted In 20 in which it was left behind the muscles there were six recurrences In many of the cases a fatty or atrophied internal oblique or a weak conjoined tendon were no doubt the cause of the recurrence The Bassini operation with the additional suture suggested by Coley is still the operation of choice with the majority of surgeons

Such cases of fatty and atrophic or deficient internal oblique as well as the other causes of recurrence after the typical Bassini operation, led a number of surgeons to devise methods in which the cord should be left in its natural bed, resting on the transversalis fascia and not transplanted The internal oblique and transversalis muscles are thus sutured to the inner side of Poupart's ligament in front of the cord

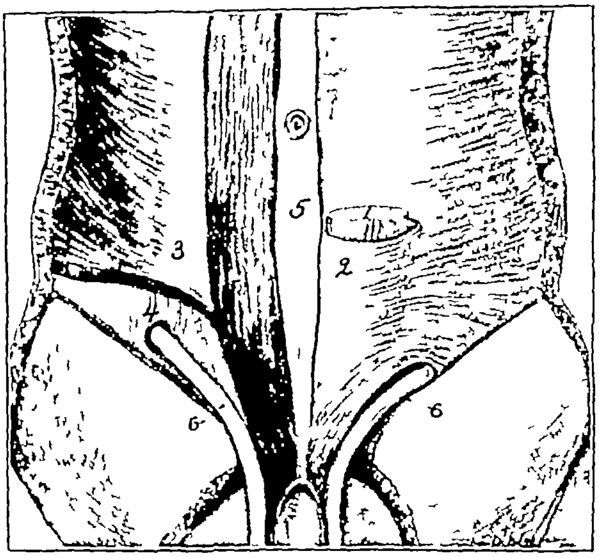

Fig 5—Dissection of inguinal region (deeper layers) 1 Body of rectus muscle lying in its sheath 2 Sheath of rectus formed here by aponeuroses of external oblique internal oblique and transversalis muscles 3 Aponeurosis of transversalis muscle 4 Transversalis fascia and internal or deep abdominal ring 5 Linea alba 6 Spermatic cord

I will describe these briefly in the order of their publication In 1892 Wolfler[3] suggested suturing the internal oblique and transversalis to Poupart's and closing the remainder of the gap by also bringing the edge of the rectus or its sheath to the same ligament.

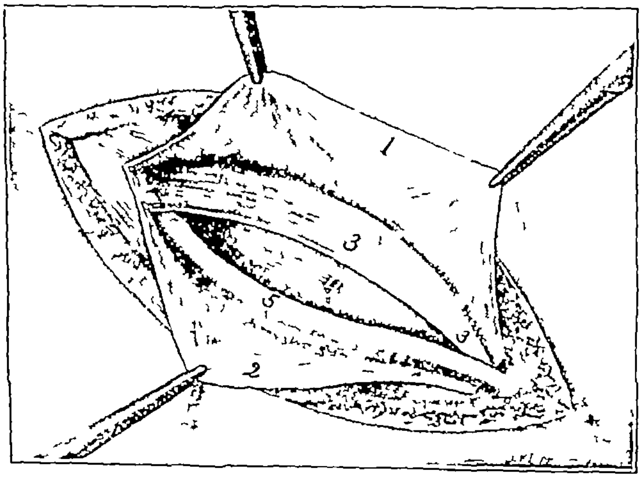

Fig 6—Inguinal canal laid open by incising the aponeurosis of the external oblique muscle (Step 1 of Andrews operation) 1 Internal portion of external oblique aponeurosis 2 External portion of external oblique aponeurosis 3 Edge of internal oblique muscle. 4 Transversalis fascia 5 Spermatic cord.

In 1899 the excellent report by Dr Bloodgood[4] again called attention to his own method of transplantation of the rectus in closing the defect at the lower angle of the wounds

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[2] Chicago Med Rec August 1895

[3] Wiener medizinische Blätter No 43 1892

[4] Johns Hopkins Hospital Reports vol vii 1899

In the same year Dr A H Ferguson[5] described the operation named after him He laid stress on the observations made by Dr Turck on cadavers (referred to at the beginning of this paper) and to his own clinical experience to the effect that the extent of the normal insertion of the internal oblique was the outer two-thirds of Poupart's In his operation he aims to restore normal anatomic conditions by suturing the internal oblique and transversalis to Poupart's in front of the cord (Fig 10) At the same time he diminishes the size of the internal ring in the transversalis fascia by sutures

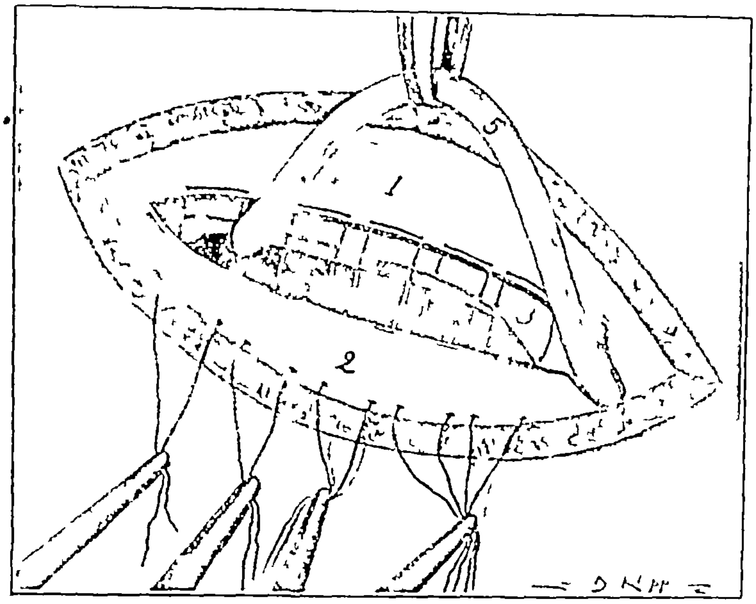

Fig 7—Step 2 of Andrews operation This illustration shows how sutures have been inserted through the internal portion of the external oblique aponeurosis (1) and the edges of the internal oblique (3) and transversalis (4) muscles and carried through the shelving edge of Poupart's ligament and close to the insertion of the external portion of the external oblique aponeurosis (2) One suture is placed above the spermatic cord (5), which is held to one side and 2 to 4 below it (See text)

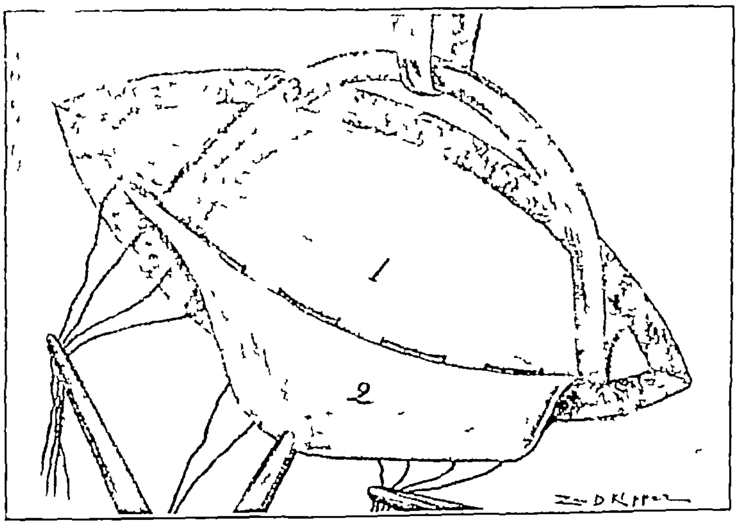

Fig 8—Step 3 of Andrews' operation The structures which have been included in the sutures above and below the cord (3) are drawn over to Poupart's ligament just before tying the sutures and replacing the cord between its new coverings which are the internal (1) and external (2) portions of the external oblique aponeurosis

In 1900 Ch Girard of Berne[6] published a method (see Fig 10), which he states was previously described by one of his students in a thesis in 1894 This latter, so far as I am able to learn, never was published in any journal prior to 1900

Girard advised suturing the internal oblique and transversalis *to Poupart's* ligament without displacing the cord At the same time he imbricates the external oblique edges in a manner similar to that of Andrews (to be described below)

In 1903 Dr W S Halsted[7] (see Fig 10), described the method now in uniform use at the Johns Hopkins Hospital, in which the cord is left in its bed and its veins ligated when large, and the vein stump dropped back The suture with which the hernial sac is ligated is carried far out under the internal oblique muscle and tied after passing through this muscle The cremaster muscle is then sutured to the posterior surface of the internal oblique The edge of the latter muscle, as well as the anterior sheath of the rectus, is now sewed to Poupart's ligament As a last step the external oblique edges are overlapped as in the Andrews operation

In 1895 Dr E W Andrews[2] described a method which he termed the imbrication or lap joint It consisted essentially of adding a third layer to those which Bassini places behind the transplanted cord This third layer is the inner portion of the external oblique aponeurosis which has resulted from the splitting of this structure incidental to opening the canal The cord is then placed on this layer and the outer portion is brought over it somewhat after the manner of a double-breasted coat

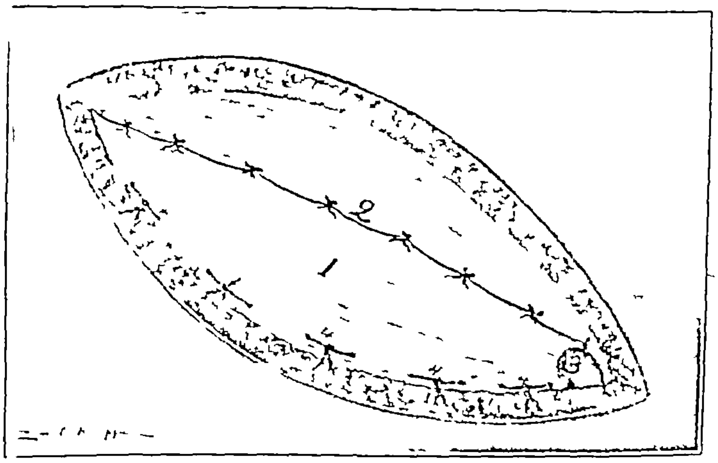

Fig 9—Step 4 of Andrews operation The kangaroo tendon sutures shown in Figures 5 and 6 have been tied The knots (4) lie on the outer side of the external portion (1) of the external oblique aponeurosis The contour of the cord (3) is seen lying in its new canal formed by bringing the edge of the external portion of the external oblique aponeurosis (1) over and suturing it by interrupted catgut sutures to the outer aspect of the internal portion (2) of the same aponeurosis

In this original paper[2] he described and showed illustrations of a number of different ways in which the overlapping could be done In one of these the inner portion of the external oblique aponeurosis, in addition to the internal oblique and transversalis, are sewed to Poupart's in front of the cord

I have mentioned all of these methods briefly to show how different surgeons have striven independently of each other to remedy the defects of the Bassini operation The Wolfler, Ferguson, Girard and recently published Halsted-Bloodgood operation, as well as one of the methods of performing the Andrews operation just referred to, all aim to fill the defect by placing a bulwark of muscles in front of the cord, which latter is not disturbed

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[5] The Journal A. M. A, July, 1899

[6] Archives provencale de Chirurgie October 1900

[7] Johns Hopkins Hospital Bulletin August 1903

Further experience alone can determine whether we shall adopt these methods universally and discard the transplantation of the cord or continue to transplant by the Bassini or its Andrews modification

Almost any method which completely obliterates the sac alone will suffice for smaller herniæ

For those which are larger and of long duration, in which there is a marked muscular defect and a large internal ring an operation like that of Dr Andrews seems destined to become the ideal one

As early as 1871, Billroth said "the secret of the radical cure of hernia is to find tissues which have the strength of fasciæ This has been accomplished by the operation which I will describe for the purpose of again familiarizing the profession with it The technic is as follows and can be followed by a reference to Figures 6 7 8, 9 and 10

Step 1 —Skin incision having been made from middle of Poupart's to spine of pubes and edges well retracted great care is exercised to secure accurate hemostasis The external oblique aponeurosis is now divided and the two flaps reflected (Fig 6) Sac separated from cord and after being transfixed is ligated with catgut as high up as possible and dropped back The outer portion of the external oblique aponeurosis is made free as far as Poupart's ligament

Step 2 —The cord having been held aside by an assistant kangaroo tendon sutures (Fig 7) are inserted above and below the cord, as follows A needle is threaded on each end of the tendon and the suture first passed through the edge of the inner portion of the external oblique aponeurosis It next includes as much as possible of the muscular fibers of the internal oblique and transversalis and both needles are then carried through the shelving edge of Poupart's ligament The free ends of the suture, after the needles have been taken off lie on the external aspect of the aponeurosis (Fig 7)

The sutures at the angle of the wound which corresponds to the external ring, include the edge of the rectus and conjoined tendon and are inserted as close as possible through the innermost portion of Poupart's where it is reflected on the symphisis pubes One suture above and two to four below the cord usually suffice

Step 3 —The suture above the cord is first tied, then the one immediately below it thus enabling the operator to determine the amount of constriction of the cord The remainder of the deep sutures are now tied the knots lying on the outer side of that portion (outer) of the external oblique aponeurosis, which is attached to Poupart's ligament (see Fig 8) The cord is next laid on the posterior wall of its new canal

Step 4 —The edge of the outer half of the external oblique aponeurosis is brought over so as to cover the cord and sewed by interrupted catgut sutures to the external aspect of the inner half (Fig 8) The skin is sutured with catgut or horsehair

The relations after this operation are well shown by the second diagram of Figure 10 The cord lies in a new inguinal canal whose posterior wall has three layers one of which is a powerful aponeurosis Its anterior wall is composed of one layer of the same strong character

The Andrews operation has been used by a number of Chicago surgeons Drs Andrews, McArthur Greensfelder, Williams Frank Schroeder and myself, in over 1 000 cases, but no attempt has been made to re-examine this large number of cases

In order to determine the results of a number of cases operated on with the same technic by Drs Andrews Greensfelder and myself at the Michael Reese Hospital I sent letters to 110 patients who had been operated on one year prior to June 1, 1903 The majority of surgeons agree with Coley that 80 per cent of all recurrences take place within one year after operation, so that I chose this latter period as a guide

Only those who have attempted the task of examining cases of radical cure of hernia in our larger cities can appreciate its difficulties, so that the comparatively small number of cases examined is no criterion of the value of this operation

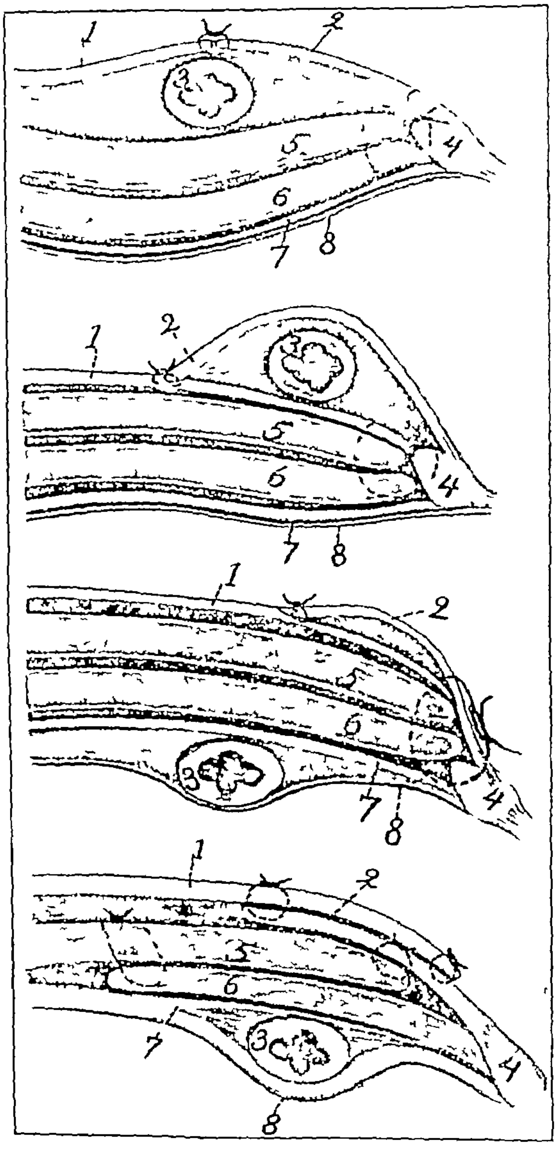

Fig 10 —Arrangement of aponeurosis and muscles in various modern operations (semi diagrammatic) for radical cure of inguinal hernia A. (Uppermost) *Typical Bassini* B (*Second from top*) Andrews modification of Bassini C (Third from top) Ferguson (Girard Wolller) D (Bottom) Halstead Bloodgood. 1 Internal portion of external oblique aponeurosis 2 External portion of external oblique aponeurosis 3 Spermatic cord. 4 Poupart s ligament showing shelving edge 5 Internal oblique muscle 6 Transversalis muscle except in *Halstead* s operation, where represents cremaster muscle 7 Transversalis fascia 8 Peritoneum

Of 110 patients whom we wished to examine 27 were no longer in the city directory Letters were sent to the addresses given in the directory of 52 patients, but none responded Of 28 who were examined by myself there were two recurrences In one of the cases the patient had been operated on five years before, had gained fifty pounds in weight and had become dropsical The hernial protrusion had only occurred two months before the examination, so that the onset of the ascites from cirrhosis of the liver, combined with hard work as a baker, would in a great measure favor a recurrence

The second case of relapse occurred two years after operation in a patient with a severe chronic bronchitis Two other patients answered by letter that their hernia had not recurred and that they were able to do heavy work

As I stated above, it does not seem fair to figure percentages from the 30 cases examined because the other patients are to a great extent of a migrating class, but who would probably come to the same hospital if a relapse had occurred

There is no question in the mind of everyone of us who has employed this modification of the Bassini operation that it is the ideal operation, especially for cases of hernia with large ring and extensive muscular defect

The advantages of overlapping the aponeurotic and muscular structures are that the former while elastic, possess great strength and are not so likely to pull away from Poupart's ligament The sutures placed just above and below the cord enable one to greatly decrease the size of a large internal ring so that it is not necessary to resect the veins unless they are markedly enlarged

At the Johns Hopkins Hospital the early period cases of resection of the veins showed atrophy of the testis in 10 per cent, but in his recent article Halsted states that there have been no unfavorable results since resection of the veins is used as a more or less routine measure when the veins are large Nevertheless the profession in general has been rather skeptical in regard both to the necessity and advisability of such a procedure I have employed the method in two recent cases without bad results

In a hernia associated with non-descent of the testis the resection of the veins as pointed out by Griffith and Bevan is of great aid in bringing the testis down The fear in general of gangrene or atrophy of the testis is probably an exaggerated one, because the cord receives an arterial supply independent of the spermatic vessels

CONCLUSIONS

My conclusions are as follows

1 In the normal inguinal canal the anterior wall is relatively stronger than the posterior

2 This condition is exaggerated in inguinal hernia so that the larger the hernia the greater the muscular gap between the arching fibers of the internal oblique and Poupart's ligament

3 In the smaller herniæ almost any of the modern operations either with or without transplantation of the cord will suffice

4 When the muscular gap is marked some method must be employed in which a strong aponeurotic structure is used to fill the gap

5 The Andrews modification of the Bassini operation, by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal, gives the latter great strength

6 The majority of surgeons believe best results are obtained by not transplanting the cord It is still an open question whether or not the veins should be resected

NOTE—The discussion on the papers of Drs Eisendrath and McArthur will follow the paper of Dr McArthur in a week or two

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New Variety of Ulcer—An index medicus published in France (not Baudouin's), includes under the heading of endemic ulcers articles referring to the Murphy button

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THE RELATION OF ACUTE INFECTIONS TO ARTERIOSCLEROSIS *

WILLIAM SYDNEY THAYER, M.D
Associate Professor of Medicine in Johns Hopkins University,
AND
CLINTON ETHELBERT BRUSH, Jr, M D
Assistant Resident Physician, Johns Hopkins Hospital
BALTIMORE

In a recent study in which one of us has been engaged, on the cardiac and vascular complications and sequels of typhoid fever,[1] several rather suggestive facts have come to light with regard to the possible causal relation of this disease to sclerotic changes in the arteries

One hundred and eighty-nine individuals who had passed through typhoid fever under our observation were examined months and years after their infection It was found that among these individuals

(*a*) The radial arteries were palpable in a surprisingly large proportion of cases as compared with control observations on healthy men and women who had never had typhoid fever

Between the ages of 10 and 50, 48 3 per cent of the old typhoids showed palpable radials, as compared with 17 5 per cent among ordinary healthy individuals These proportions held in every decade, and were not essentially modified in tables from which all giving a history of serious infections or alcoholic habits had been excluded

(*b*) The average systolic blood pressure (Riva-Rocci) was materially higher in every decade among the old typhoids than in control observations on healthy individuals who had not had typhoid fever

(*c*) The average size of the heart was larger among the old typhoids when considered in groups arranged by age, according to decade, than in figures obtained from examination of the typhoid patients at the time of admission to the hospital

Furthermore, we have been rather impressed by the frequency with which early endarteritic plaques are found in the aorta and coronary arteries of patients dying of typhoid fever

Out of 95 necropsies on patients dying of typhoid notes were made on the condition of the aorta in 52 In 30 of these sclerotic changes were observed These are described as fresh in at least 21 instances

In 62 cases the condition of the coronary arteries was noted In 19 of these definite sclerotic changes were described, while in 4 others "yellow opacities of the intima" were observed In 13 cases the changes were described as "early" and "fresh"

These figures would tend to support the view that typhoid fever must be regarded as a factor in the production of arteriosclerosis The rôle of infectious diseases in the production of acute arteritis in medium-sized and smaller vessels is undoubted Their influence, however on the development of the more chronic changes which are included under the term arterio sclerosis has been and still is a disputed question

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders, Frank Jones and W S Thayer

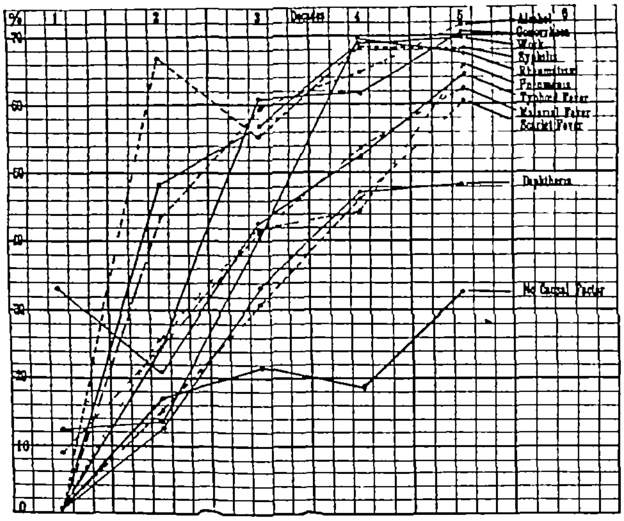
[1] Thayer On the Late Effects of Typhoid Fever on the Heart and Vessels, Am Jour Med Sci, 1904 vol cxxvii, p 391 Thayer On the Cardiac and Vascular Complications and Sequels of Typhoid Fever, the Jerome Cochran Lecture Mobile Medical and Surgical Journal, 1904, vol v No 1

EDITOR'S NOTE—One of the authors wishes it understood that the spelling used in this article is according to the standard adopted by THE JOURNAL

It occurred to us that some light on the relative influence of acute infections as compared with other, probably more important causal factors might be obtained by a consideration of the records of palpability of the peripheral arteries in a large number of consecutive histories of patients in Professor Osler's wards In these histories careful inquiry is made, not only into the record of previous infectious diseases, but also into the habits of the patient with regard to alcohol and heavy work

It may be well to say at the outset that these figures deal entirely with the records of palpability of the radial arteries It is well recognized that the palpability of a radial artery alone may bear little relation to the existence of sclerotic changes in other vessels and, in the individual case, by no means justifies the assumption that arteriosclerosis exists elsewhere It is also recognized that, in thin subjects, radial arteries which are free from change may at times be rolled under the finger On the other hand, it is common enough to find grave changes in the aorta, coronary arteries and other vessels with perfectly soft radials Again, in the later decades, the palpability of the radials is, in a certain proportion of cases, dependent on calcification of the media, which is entirely independent of arteriosclerosis as such Notwithstanding these considerations, we believe that changes in the radial arteries sufficient to justify a note in the course of an ordinary visit are in a considerable proportion of cases associated with arteriosclerotic changes elsewhere, and that this proportion is large enough to give a certain value to a series of observations such as we wish to present

CHART 1 —Showing the percentage of cases in which the radial arteries were papable in patients giving the histories of various acute infections, alcohol and work compared with those cases in which there was a history no causal factors



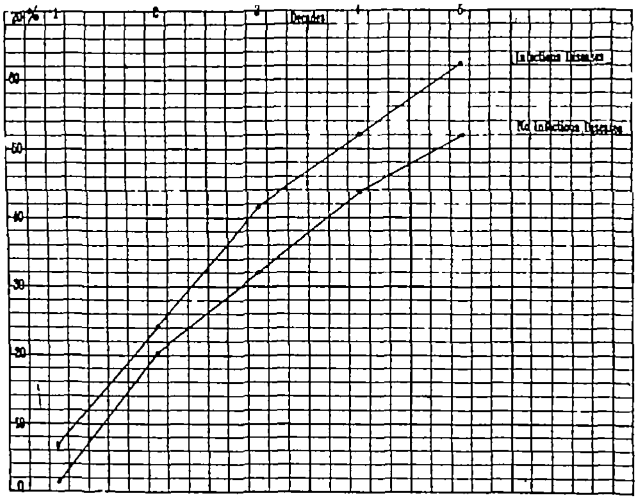
Pr ct.	0.82	16.6	21.4	18 [illegible]	32.6	No causal factor
Cases	121	186	167	102	52	
Pr ct.	0	12.8	53.4	47.2	48.1	Diphtheria
Cases	10	39	92	74	49	
Pr ct.	0	15+	50.8	46.2	60.4	Scarlet fever
Cases	9	53	123	119	86	
Pr ct	9+	25.3	40.8	53.7	62.4	Malarial fever
Cases	11	74	2[illegible]2	2[illegible]3	213	
Pr ct	33.3	20.8	42.5	52.1	64.7	Typhoid fever
Cases	6	48	162	142	119	
Pr ct.	0	25.8	41.2	44.1	65.9	Pneumonia.
Cases	9	31	109	120	94	
Pr ct.	12.5	13	40.6	60.3	67.8	Rheumatism
Cases	8	46	128	150	109	
Pr ct.	0	24.1	60.9	61.7	70.3	Gonorrhea
Cases	0	29	133	128	91	
Pr ct	0	66.6	55.8	68.1	68.0	Syphilis
Cases	0	6	43	66	47	
Pr ct	0	43.6	59.4	64.8	70.8	Alcohol
Cases	1	103	589	490	357	
Pr ct	0	48.1	58.1	68 [illegible]	69.6	Work
Cases	0	83	340	312	254	

Out of 3,894 consecutive patients admitted to the medical wards of the Johns Hopkins Hospital, the radial arteries were described as palpable in 1,860 instances, or 47.7 per cent No note was made as to the condition of the vessel in 1,192 cases, while it is expressly stated that the arteries were soft in 582 cases

These cases were separated into groups in which a history was obtained of diphtheria, scarlet fever, malarial fever, typhoid fever, pneumonia, rheumatism, syphilis, gonorrhea, alcohol and heavy work Another group consisted of those cases presenting none of these causal factors It should be said that under alcohol are included, not alone those who used alcohol to excess but all patients who acknowledged that they took alcohol in any form

Chart I shows the proportion of cases showing palpable radial arteries in each one of these groups arranged according to age by decades Recognizing the fact that, above the age of 50, the proportion of cases showing calcification of the media might well be large enough to materially vitiate the results, we have considered the figures for the first five decades only

CHART 2 — Showing the percentage of cases in which the radial artery was palpable in 2,031 cases in which a history of the more serious infectious diseases was obtained and 1,111 cases in which there was no such history arranged according to age by decades



Pr ct	6.8	24.3	41.8	52.1	62.1	History of infectious diseases
Cases	44	255	664	619	149	
Pr ct	0.8	20.2	37.0	43.9	52.3	History of infectious diseases
Cases	119	25[illegible]	350	241	149	

It becomes evident from a glance at this chart that the statistics with regard to syphilis and gonorrhea must be of little value on account of the absurdly small proportion of cases in which a history of venereal disease was acknowledged The curves fall into three main groups Those for work, alcohol and syphilis stand materially above the others Below this group comes a second, consisting of the remaining acute infections and lastly, toward the base line is the curve of those cases in which the history of no causal factor was present Rheumatism, typhoid and malarial fevers seem to lead in the second group

In order to gain a more definite idea of the statistics with regard to infectious diseases in general, the cases were divided into two groups according to the presence or absence of a history of the above-mentioned acute infections In each of these groups the percentage of cases in which the radial arteries were palpable was estimated This resulted in a demonstration (Chart 2) of the fact that the radials were palpable in considerably higher proportion in those cases giving a history of previous infectious disease

Inasmuch as in the great majority of cases each individual presented a history of multiple causal factors, it seemed to us important to prepare a third chart in which there were included only those cases where a single one of these factors was present When considered from this standpoint, the number of cases in each group is so small that a consideration of curves by decades becomes impossible

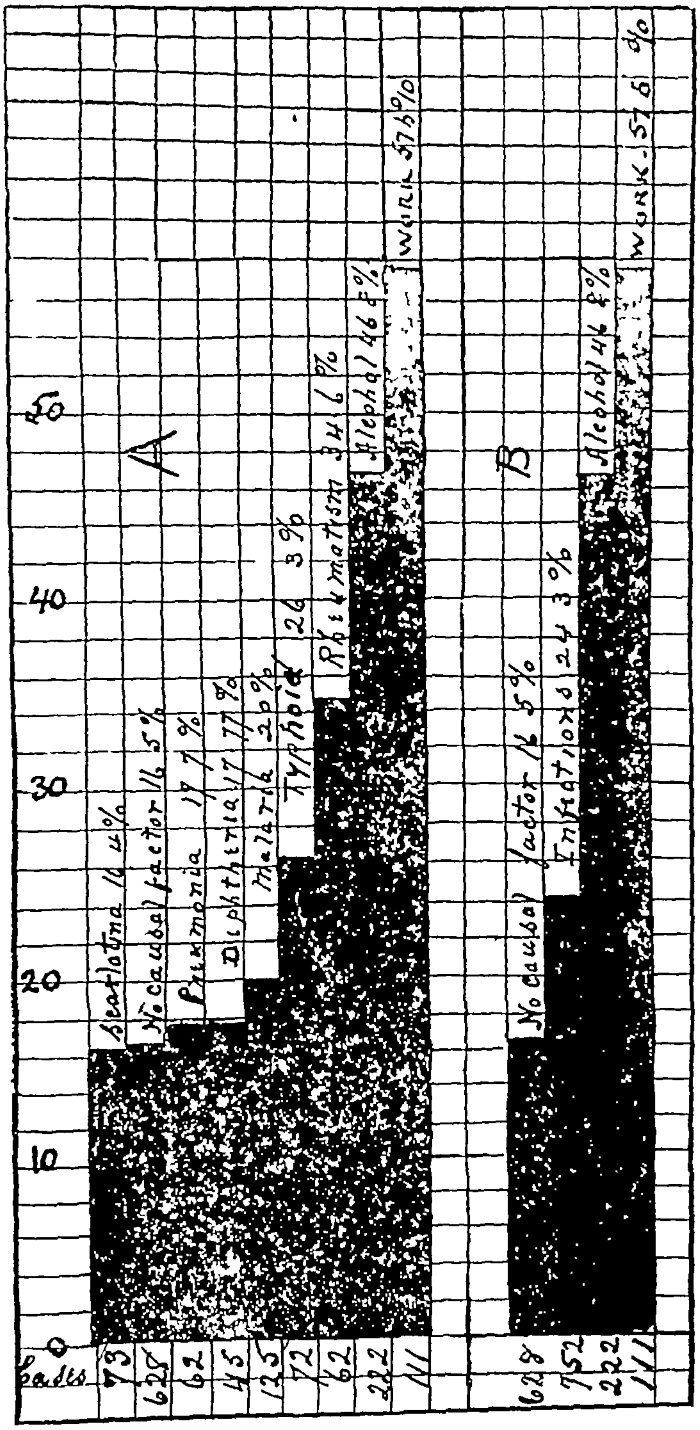


Chart 3

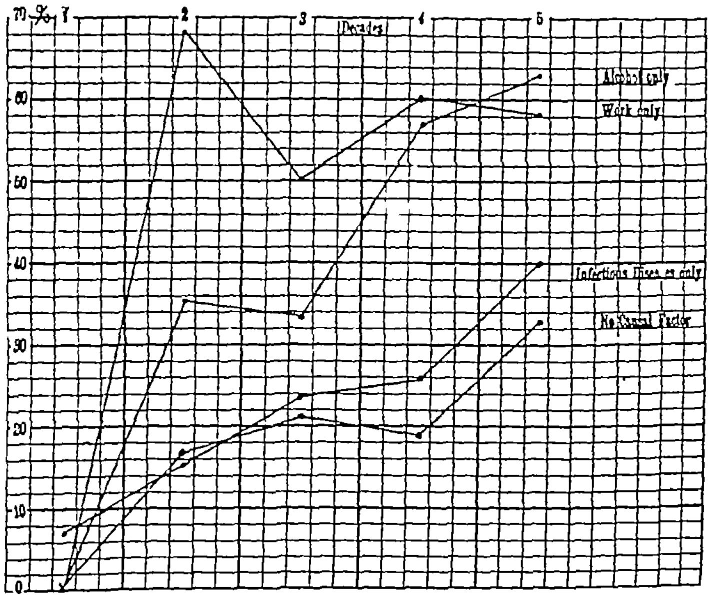
Figure A in Chart 3, therefore, represents the proportion of palpable radials in the first five decades of those cases in which a history of only one of the several causal factors which we have mentioned was present

An examination of this chart reveals the fact that the figures simply emphasize those brought out by Chart 1 By far the highest percentage of palpable radials was found among the cases with a history of heavy labor (57 6) Next to this come the figures for the patients who gave only a history of alcohol (46 8 per cent) Among the acute infections, rheumatism, as might be expected, leads (34 6 per cent), with typhoid fever second (26 3 per cent), the other infections occupying a subordinate position

The cases giving a history of syphilis and of gonorrhea alone were so absurdly small in number that they have been omitted from the list Only 12 cases under 50 years of age gave a history of syphilis alone, among these were 2, 16 6 per cent, who showed palpable radials, 10 cases gave a history of gonorrhea alone, in 40 per cent of these the radial was palpable

Chart 4 illustrates the proportion of palpable radial arteries in those cases in which there was a history of acute infections only, along with those presenting a history of alcohol and work alone The lower line represents the cases in which there was a history of no causal factor

CHART 4—Illustrating the percentage of cases showing palpable radial arteries in patients giving a history of heavy work, alcohol or infectious diseases alone as compared with those cases in which the history of a causal factor was obtainable



	1	2	3	4	5	
Pr ct	0 82	16 6	21 4	18 6	32 6	No causal factors
Cases	121	186	167	102	52	
Pr ct	7 1	15 4	23 9	26	30 8	Infection alone
Cases	42	149	255	188	118	
Pr ct	0	35 4	43 7	56 9	63 0	Alcohol alone
Cases	0	31	80	65	46	
Pr ct	0	68 0	50 0	60 0	58 3	Work alone
Cases	0	25	42	20	24	

The relation of the percentages of palpable radials in these several groups is brought out more clearly in Figure B of Chart 3 The small proportion of palpable radials among the cases giving a history of acute infections alone (24 3 per cent), as compared with those giving a history of heavy work (57 6 per cent) or alcohol (46 8 per cent), stands out strikingly

CONCLUSIONS

As the result of an analysis of the records of nearly 4,000 patients entering consecutively the medical wards of the hospital, we find that

1 The percentage of palpable radial arteries is materially higher among those individuals in whom there is a history of heavy physical labor and of the use of alcoholic stimulants than in the remaining cases This

percentage is appreciably higher in the cases giving a history of heavy work

2 The percentage of palpable radial arteries is higher among those cases presenting a history of severe infectious diseases than among those in which this history is absent or among those in which a history of no causal factor could be obtained The proportion is, however, far below that in the case of work or alcohol

3 Rheumatism appears to be the acute infection after which the percentage of palpable vessels is highest, and next to rheumatism, typhoid fever

As previously stated, it is well recognized that the results of such an investigation as this justify only rather rough generalizations

Are we even warranted on a *post hoc propter hoc* principle, in assuming that work, alcohol and, in a subordinate way, the infectious diseases are the main or important causes of the changes which result in palpable radial arteries? Not necessarily It is, however, not uninteresting that the results should, so far as they go, support the generally accepted views

It seems to us there can be small doubt that the main etiologic factor in the development of the hyperplastic thickening of the intima, which constitutes so important an element of arteriosclerosis, is overstrain of the vascular walls, continued or intermittent high tension, whatever its ultimate cause may be Heavy physical labor is assuredly one of the most important of these causes It is not inconceivable that the rôle of the acute infections may be rather in the production of those focal degenerations with secondary regenerative changes which constitute the other important element in arteriosclerosis

ARTERIOSCLEROSIS OF SYPHILITIC ORIGIN *

C TRAVIS DRENNEN, M D

HOT SPRINGS, ARK.

Undoubtedly syphilis is quite capable of producing, and does produce, in certain instances, arteriosclerosis, but the existing relationship is somewhat obscure

There is no disease in the whole category of diseases which brings to view so many and varied symptoms as syphilis, and it would be singular, indeed, if it did not enter as a causative factor in the production of arteriosclerosis when taking into consideration its known tendency to produce sclerosis in various organs

That syphilitic arteritis and endarteritis do occur not infrequently, and that, too, early during the history of this disease, is recognized as a fact both by clinician and pathologist, furthermore, there is probably no disease which is so amenable to treatment, if such be instituted prior to pathologic changes which are not absolutely beyond repair It will perhaps ever remain an open question as to just how syphilis attacks the vessels but enough is known to lead us to presume that it comes about through the lymph spaces supplying the vessels

I have often wondered if one day we would not come to recognize that vascular changes invariably occurred prior to organic changes in many of our so-called nervous diseases Nerve-cells must be fed and any alterations of the vessels themselves necessarily would secondarily bring about a starvation process provided such alteration became permanent

That arteriosclerosis is responsible for locomotor ataxia in certain instances and that syphilis enters largely as a factor in bringing about these results is a view regarding which I have rather firm convictions I have long been persuaded that arteriosclerosis does not depend on any specific irritant for its production, but that in all cases a combination of elements enter as causative factors Any agent or combination of agents that is continuously left to circulate within the vessels which are foreign to normal cell life will sooner or later be followed by the very changes now under consideration, no matter whether said agent or agents be alcohol, lead syphilis, auto-intoxication, or otherwise To me it is passing strange that a drug like mercury, which is more commonly used in the treatment of syphilis than any other, and has been for ages past, has not been considered one of the chief agents in the production of arteriosclerosis When we come to consider the fact, it would be almost marvelous if at times we did not recognize the possibility, and even the very strong probability, of such being true, when we know so well the method commonly adopted by the profession at large to-day in the administration of mercury for the relief of syphilis

What has been the custom and teaching of some of our very best writers regarding this subject for the past quarter of a century? Have we not been led to believe that the so-called tonic treatment of syphilis with mercury was the only royal road to success? Has it not been the practice of many physicians to prescribe mercury for a period of two years, practically without interruption?

I maintain that mercury is a metallic poison and altogether foreign to normal cell production, and when it is thrown into vessels, and there left to circulate for many months, and even years, whether done on the advice of a physician or through self-prescribing we will find an agent that is just as capable of producing arteriosclerosis as syphilis or any other agent

So many times has it happened that patients have come to my office who have been under continuous syphilitic treatment for many years, and, after having given a complete history of the affair, draw from their pockets a little bottle of mercury pills or of some other pharmaceutic preparation, and relate with painstaking care just how much of this very much abused drug they have been taking during the past three or five years—daily, as the case may be—practically without interruption It is common enough, I assure you, to warrant me in the belief that to-day more persons are treating themselves for syphilis than are under treatment by regular physicians With this reckless senseless and indiscriminate use of a drug like mercury, need we expect otherwise than to find arteriosclerosis resulting particularly so when combined with one of man's oldest and most treacherous *enemies*, syphilis?

A Law in Puerperal Pathology?—The *Semana Medica* No 10, 1903 quotes Corminas to the effect that in his large experience he has never known a fatal case of puerperal infection associated with acute mammitis Recovery is the invariable rule when the puerperal infection is accompanied by an acute mammary lesion He suggests that the presence of a lesion with attenuated infection may induce the formation of antibodies which exert a favorable influence on the virulent focus in the uterus It is possible, he adds, that if fixation turpentine abscesses were made in the breasts instead of elsewhere they might have a more powerful immunizing action especially in case of infection involving the genital apparatus

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders Frank Jones and W S Thayer

ARTERIOSCLEROSIS OF NEPHRITIC ORIGIN *

GEORGE DOCK, M D

ANN ARBOR, MICH

Perhaps many of you will think of the celebrated chapter on "Snakes in Iceland" in connection with the title assigned to me Most authors on the subject say little or nothing in line with the view suggested, some dismiss it by saying that arteriosclerosis is a common cause but rarely a result of nephritis, while others say that nephritis and arteriosclerosis are often combined and due to the same cause A few admit that nephritis may cause arteriosclerosis by the prevention of elimination and the throwing into the circulation of substances that either injure the walls of the arteries directly or increase vascular tension, so causing hypertrophy of the heart high pressure and later disease of the arteries

It is doubtless true that in many cases the arterial disease causes the renal disease It is of great clinical importance that the kidney lesion may be very severe, yet latent, and we often see how, under the influence of an acute intoxication, as in infectious diseases, severe symptoms may suddenly develop, and quickly cause death when advanced renal degeneration is discovered In pneumonia, influenza, appendicitis and many other diseases such events often far outweigh the importance of the acute malady It is generally accepted that a chronic nephritis, either interstitial or parenchymatous in a person with previously healthy blood vessels, may cause arteriosclerosis by retention of injurious substances, which act either on the walls of the vessels or cause reflex spasm The arterial spasm in turn is assumed to be either general or largely renal It is often supposed, also, that in interstitial nephritis the mechanical obstruction to the circulation assists in causing high pressure, and, as every parenchymatous nephritis is associated sooner or later with some interstitial change, it is easy to explain many cases of arteriosclerosis on the grounds just mentioned But it is well to remember that there is a great deal of assumption and no actual knowledge of such processes

The recognition of the earliest stages of arteriosclerosis is only beginning to assume a practical character By the use of instruments for measuring blood pressure, and by the more careful study of symptoms and physical signs, it will be possible to put this subject on a more definite basis than at present

The relation of acute nephritis to arteriosclerosis is also a promising field for observation Hitherto comparatively little has been done If chronic nephritis can injure vessel walls by poisonous substances or spasm, there is good reason for thinking that acute nephritis can do so In fact, the toxic symptoms in acute nephritis are often more marked than in chronic cases, and if the duration is often short we must believe that sufficient time is not rarely present for serious damage of tissues Moreover, the edema that occurs early in some cases of acute nephritis is generally, and I think correctly, ascribed to an injurious action of products of disease on the blood vessels, and even if these are smaller vessels the ultimate danger must still exist

The pathology of such processes has been assigned to abler hands, so that I need not discuss it I wish to call attention to the value of clinical study The importance of hypertension in causing vascular disease is now well recognized The detection of the supposed toxic substances and the explanation of their mode of action on the cells need not detain us now If there is hypertension in acute nephritis, we must admit that it may lead to disease of the intima, followed by compensatory and later, by degenerative changes

There is but little literature on this, but now that methods of investigation are becoming simpler the evidence is certain to increase In a recent case in my clinic, a previously healthy boy of 15 years had acute nephritis following a sore throat so mild that it was not treated by a physician In about three weeks there was slight anasarca, the urine solidified on boiling, and contained many casts, but no blood There were several attacks of uremia of various degrees, and after two months death suddenly occurred in another attack During the whole course of the disease the blood pressure was high, measuring from 170 to 190 mm on the Cook's Riva-Rocci instrument It was interesting to note that with this pressure, and an accentuated aortic second sound there was no evidence of dilatation of the heart

Many cases of acute nephritis apparently as severe as this one recover, and I think we must believe that when they occur they may act as causes of vascular sclerosis Further investigations will show whether the milder affections of the kidney, so common in acute infections are associated with high blood pressure It must, of course, be remembered that the other causes of arteriosclerosis, emotional, dietetic, infectious and toxic, are also to be searched for in such cases What I wish to do now is to assert the possibility of renal diseases of all kinds assisting in the production of arterial disease, and to plead for a more extensive clinical investigation in order to show the extent and, if possible, the explanation

Note —The rest of the papers in this symposium together with the discussion will appear next week

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*Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee Drs J M Anders, Frank Jones and W S Thayer

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Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART II THE SERVICE AS IT IS TO DAY

(Continued from page 667)

(C) THE FUNCTIONS OF THE SERVICE

The functions of the Public Health and Marine-Hospital Service may be considered two-fold, viz , those of a Marine-Hospital Service and those of a Public Health Service It must not be supposed, however, that any such division really exists in the service An assistant surgeon has a tour of duty at each of the various kinds of work, and is early in his career equipped by practical experience to perform any of the varied duties required of an officer of the Public Health and Marine-Hospital Service These young officers are sent successively to the large marine hospitals, to the quarantine stations, to the immigration inspection stations, and to the hygienic laboratory, in order to round out their professional training

The two classes of work are inseparably associated The splendid clinical advantages of hospitals where over 58,000 seamen are treated annually, and of immigration inspection stations, through which hundreds of thousands of immigrants pass each year, give the young officer an educational experience which will be invaluable to him in his future quarantine work, while the training in the hygienic laboratory and in the practical disinfection of ships at quarantine stations, increases his efficiency in the work required in a modern marine hospital

The service operates 22 marine hospitals, maintains 121 relief stations, where hospital and dispensary treatment is furnished, and treats annually over 58,000 sick and disabled seamen of the merchant marine Its hospitals and relief stations are located at all the important ports of the United States, including Hawaii and Porto Rico

The class of cases treated in the service hospitals is necessarily varied The wide distribution of the hospitals in every climate, from Alaska to Florida and from Porto Rico to Hawaii, insures a wide range of diseases, and even to the hospitals on the seaboard of the United States proper, unusual and interesting tropical diseases are brought by deep-water sailors from all parts of the world

The surgical work of the service covers a very large field, and if we except gynecology, embraces all branches of surgical work The average number of operations requiring an anesthetic performed during the year at the United States Marine Hospitals exceeds 1,300

Beneficiaries of the service are as follows (*a*) All persons employed on board in the care, preservation, or navigation of any registered, enrolled or licensed vessel of the United States, or in the service on board of those engaged in such care, preservation or navigation (*b*) Officers and crews of the Light-House Establishment (*c*) Officers and crews of the Revenue-Cutter Service (*d*) Seamen employed on vessels of the Mississippi River Commission (*e*) Seamen employed on vessels of the Engineer Corps of the Army (*f*) Keepers and crews of the U S Life-Saving Service (*g*) Officers and seamen of vessels of the Coast and Geodetic Survey who are not enlisted men of the Navy (*h*) Seamen employed on U S Army transports or on vessels belonging to the Quartermaster's Department of the U S Army who are not enlisted men of the Army

The service also conducts the physical examination of surfmen of the Life-Saving Service and the examination of the claims of these men for benefits under the act of Congress of May 4, 1882

By law, service officers are also required to serve on boards of retirement for officers of the Revenue-Cutter Service By regulation, the service conducts the physical examination of candidates for enlistment, and of officers for promotion, in the Revenue-Cutter Service, and on request officers of this service are also detailed for duty aboard vessels of the Revenue-Cutter Service as surgeons Examinations of applicants for masters' or pilots' licenses, in which particular attention is paid to the color-sense of the applicant, are conducted for the Steamboat Inspection Service

Examinations of applicants for appointment in the Coast and Geodetic Survey and the Light-House Establishment are also made by officers of the service

The service maintains at Fort Stanton, New Mexico, a sanitary ranch with an area of 38 square miles for the treatment of tuberculous seamen Consumptives are removed from the various marine hospitals and sent to this sanatorium at Fort Stanton with a view to their improvement or recovery, and also to remove sources of tubercular infection from the general hospitals The reports from Fort Stanton Sanatorium are very encouraging, quite a large percentage having recovered and a number leaving greatly improved, in spite of the fact that all classes of cases the advanced as well as the incipient are sent there

The site selected for the sanatorium at Fort Stanton is almost ideal for the purpose It has an elevation of over 6,000 feet, an annual rainfall of from 14 to 17 inches, and a mean average temperature of 55 6 degrees Fort Stanton, as its name implies, was formerly a United States Army post, but had been abandoned for several years when turned over to the Marine-Hospital Service The sanatorium is equipped with ice and cold-storage plants, steam laundry, and a modern system of plumbing, sewage and waterworks It is the intention of the surgeon general to make the station in time self-supporting By irrigation, large crops of hay, grain and garden truck are grown A herd of Jersey and Holstein cattle furnishes abundance of fresh milk and a part of the butter used on the reservation A herd of range cattle is maintained, is growing rapidly, and in time will supply the station with all the beef used

The work done by the service in beautifying the grounds, repairing and altering the buildings, and installing the latest scientific equipment and apparatus makes Fort Stanton one of the finest sanatoria in the United States

PUBLIC HEALTH WORK OF THE SERVICE.

The public health work of the service embraces the maintenance of the national quarantine system, including its insular and foreign service, the enforcement of the interstate quarantine laws and regulations, the prevention and suppression of epidemic disease, publication of the weekly *Public Health Reports* and other publications of professional or scientific interest, the maintenance of a hygienic laboratory for the investigation of disease and matters relating to the public health, and the medical inspection of immigrants

The national quarantine system of the United States, as controlled by the Public Health and Marine-Hospital Service, may be considered under three heads—domestic, insular, and foreign The domestic quarantine service consists of a chain of quarantine stations extending from Portland, Maine, to Cape Nome, Alaska, and covering every possible entrance through which disease might be introduced A few of the stations are still operated by state or municipal authorities, but their number is constantly growing less, and within the past few years the states of Florida, Georgia, Maine and New Jersey transferred their quarantine stations to the Public Health and Marine-Hospital Service

With regard to the few quarantines still operated by state and local authorities, the Secretary of the Treasury is empowered by law to prescribe the minimum quarantine requirements, and state and local authorities are obliged to observe these minimum requirements, but may impose additional ones if they deem fit The surgeon general is empowered, either personally or by the detail of an officer of the service, to inspect the maritime quarantine of the United States, state and local, as well as national, for the purpose of ascertaining whether the quarantine regulations prescribed by the Secretary of the Treasury are being complied with If the state or municipal quarantine authorities should fail or refuse to enforce the minimum rules and regulations prescribed, the President may detail officers to execute and enforce the said rules, and adopt such measures as may be necessary to prevent the introduction and spread of epidemic diseases

The quarantine stations operated by the service number 60, of which 42 are in the United States proper A few of these are merely inspection stations, but most of them are large establishments with hospitals, detention barracks, disinfecting plants located on piers or floats, boarding steamers, and other requisites of a complete quarantine station

By insular quarantine is meant the quarantine as maintained by the service in Hawaii, Porto Rico and the Philippines With the military occupation of Cuba, following the Spanish-American war, the national quarantine system was extended to Cuba, and the Public Health and Marine-Hospital Service instituted and maintained during that eventful period in the history of Cuba an efficient quarantine at Havana and all the subports on the island This rigid quarantine played no small part in the sanitary regeneration of Havana and other Cuban cities by preventing reinfection from without The stations were turned over to the Cuban authorities in smooth running order when the American military forces evacuated the island, and with the stations the Cubans received many expert quarantine attendants disinfectors and acting assistant surgeons, who had been trained by the Public Health and Marine-Hospital Service officers during the period of American occupation

An act of Congress, approved April 12, 1900, provided "that quarantine stations shall be established in Porto Rico at such places as the Supervising Surgeon General of the Marine-Hospital Service shall direct and the quarantine regulations relating to the importation of disease from other countries shall be under the control of the Government of the United States Under this act a complete system of quarantine is maintained by the service at San Juan, Ponce and the other seaports on the island

The service carried national quarantine to the Hawaiian Islands in accordance with act of Congress approved April 30, 1900 and now maintains a complete quarantine system at Honolulu and the various subports

By executive order dated Jan 1 1900, the service took charge of the quarantine work in the Philippine Islands The work there has been very heavy, protecting the islands from infection through the intimate commercial relations existing between Manila and Hongkong, Calcutta, Bombay and other badly infected ports, as well as inspecting, and when necessary, cleansing ships about to leave Philippine ports for the United States The transactions of the Manila quarantine probably exceed those of any other maritime quarantine station in the world, and so well has this work been done that, although cholera was epidemic in Manila, no case of the disease has reached the United States and by excluding fresh infection from other Asiatic ports it has been possible to suppress the epidemic of cholera in the Philippine Islands

The domestic quarantine work is facilitated by a system of inspection and application of our quarantine regulations in foreign ports This system is based on the quarantine law of 1893 which provides that no vessel shall enter a port of the United States from a foreign port without a bill of health from the United States consul or a medical officer of the United States Government, and further provides a penalty of $5 000, to be imposed on any vessel coming into an American port without such bill of health By the same law the Secretary of the Treasury is directed to frame rules and regulations to be observed by vessels at ports of departure and on the voyage and the President may detail a medical officer of the government to serve in the office of the consul at any foreign port for the purpose of making the necessary inspection of vessels to see that the regulations are complied with, to sign bills of health, and to furnish information

In carrying out these provisions, officers of the Public Health and Marine-Hospital Service have been sent to foreign ports whenever such ports have been considered infected or a menace to the United States At various times of national danger they have been so stationed in nearly every European and Asiatic seaport of importance, as well as in Mexican, Central American, South American and West Indian ports

At present, officers of the service are signing bills of health for American-bound vessels in the American consulates, at Naples, Italy, Yokohama, Nagasaki and Kobe, Japan, Calcutta and Bombay, India, Hongkong and Shanghai, China, Tampico, Progresso and Vera Cruz, Mexico, Havana, Santiago, Matanzas and Cienfuegos, Cuba, Bridgeton, Barbadoes, La Guayra, Venezuela, Belize, Livingston, Ceiba, Bluefields, Bocas del Toro, Puerto Cortez and Port Limon, Central America, Guayaquil, Ecuador, Callao, Peru, and Rio Janeiro, Brazil

The quarantine duties of the Public Health and Marine-Hospital Service are not restricted to maritime quarantine but, under the interstate quarantine law of 1890 and the quarantine law of 1893, the government has the right to prevent the spread of contagious disease from one state to another

Section 3 of the act of Congress approved Feb 15 1893, requires that if, in the opinion of the Secretary of the Treasury, the rules and regulations of the several states and municipalities are not sufficient to prevent the spread of contagious or infectious diseases from one state to another, additional rules and regulations shall be made by him, which shall be enforced by the state or municipal health authorities, if they will undertake to execute and enforce them, but if they fail or refuse, the President shall execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the spread of such diseases, and may detail or appoint officers for that purpose

Practically the same provisions exist in the act of March 27, 1890, but it is further provided in Sections 2 and 3 of that act that any officer or agent of the United States at a quarantine station, or other person employed to aid in preventing the spread of disease, who shall willfully violate the laws of the United States or the regulations of the Secretary of the Treasury shall be deemed guilty of a misdemeanor, and be subject to a fine of $300 or imprisonment for not more than one year or both, in the discretion of the court, and that any common carrier, who shall willfully violate such rules and regulations shall be subject to a fine of not more than $500 or imprisonment for not more than two years or both, in the discretion of the court

Under this law, regulations have been prepared by the surgeon general under the direction of the Secretary of the Treasury the enforcement of which is one of the duties of the Public Health and Marine-Hospital Service

Epidemics of yellow fever and other contagious diseases are always intimately associated with the sea-faring community, and necessarily the medical officers engaged in taking care of sick sailors became familiar with these diseases, which many physicians seldom or never have opportunity of observing Their stations at seaports placed them at the gateways through which infection must come and made them pioneers in quarantine ideas and methods They manifested interest and rendered assistance during epidemics to local physterns at an early date, and in the Supervising Surgeon's annual report for 1873 exhaustive reports were made by the surgeons in charge at New York, New Orleans, Pensacola, Memphis, Shreveport, Mobile and other ports where yellow fever had appeared These reports were made in response to an order issued by the Supervising Surgeon and, together with the Public Health Reports, contain the only complete record of yellow fever epidemics in the United States, as well as valuable information concerning modes of introduction, mortality, relation of yellow fever to dengue, and methods of preventing its spread

The service as reorganized controlled wholly or in part epidemics of yellow fever in the United States in 1873, 1876, 1877, 1878, 1882, 1887, 1888, 1893, 1897 1898, 1899 and 1903

During these epidemics the service contended for the abolition of 'shotgun' quarantines and unnecessary restrictions on commerce, and while hampered in the earlier outbreaks by state's rights theorists and lack of authority, the service usually succeeded in preventing the spread of the disease and stagnation of commerce Instead of the absolute non-intercourse with infected towns which was insisted on as soon as yellow fever was discovered, the service substituted the detention camp in which refugees from infected places could be held under observation for the requisite number of days corresponding to the period of incubation of the disease and then released

The service has controlled, or assisted in controlling, epidemics of smallpox in Alabama, Arkansas Florida Georgia, Texas, West Virginia and other states When cholera had gained admission to Jersey City in 1895 service officers took charge of the situation, and there was no spread of the disease The work accomplished by the enforcement of the quarantine regulations of the service in preventing the entrance of cholera into the United States can be illustrated by the following example

After cholera had been declared epidemic in Naples, three vessels left for the United States—the *Massilia, Weser* and *Cashmere*—and all were made to conform to the regulations They all arrived at the port of New York, with no cholera en route or at time of arrival During the same period four vessels, with the same class of passengers and their places of origin similar, in many cases identical, the water and food supply being the same as on the vessels of the United States, left for South America, and all were turned back by the South American authorities and returned to Naples One the *Vincenzia Floria,* had about 50 deaths, the *Andrea Gloria* 90 on the way out, total not ascertained Another, 84 deaths, and the fourth, 230 deaths from cholera

The work done by the service in suppressing bubonic plague in San Francisco and yellow fever in Texas is a matter of recent history Under the direction of service officers the destruction of rats and the cleansing of Chinatown have been so vigorously prosecuted that no case of plague has been reported since February 1904

When the medical officers of the Public Health and Marine-Hospital Service took charge of the yellow fever situation in Texas late in September, 1903 the disease had existed for weeks Cases were reported rapidly from widely separated points showing that the disease was disseminated over a comparatively large area, and had obtained a firm foothold in Texas There was an abundance of *Stegomyia* thousands of unscreened water-tanks and other ideal breeding places for mosquitoes There was an entire lack of police or other authority to enforce sanitary measures, and an epidemic of mammoth proportions was raging in the Mexican town of Nuevo Laredo, immediately opposite, as well as in other towns of northern Mexico

In the Texas town of Laredo, the Federal officers, after October 1 screened all cases of fever, oiled water-tanks, and other possible breeding places, and disinfected infected premises and surrounding abodes to kill mosquitoes As a result of these operations, although the population was almost entirely non-immune, less than 10 per cent contracted the disease, while 50 per cent of the population of the Mexican town of Nuevo Laredo were stricken with yellow fever

The vigor of the crusade was not relaxed with the disappearance of the epidemic in the late fall, but the same prophylactic measures were maintained throughout the winter and spring up to the present Daily inspection of all the houses in Laredo was made during the period of greatest danger, and cases of fever of whatever origin were promptly screened As a result, there has been no recrudescence of the epidemic, and it is reported that for the first time in many years the people of Laredo are enabled to sleep with comfort without having recourse to mosquito bars

(*To be continued*)

TRAVEL NOTES

VIII *

MEDICAL AFFAIRS IN THE HAWAIIAN ISLANDS

NICHOLAS SENN, M D

CHICAGO

PAGO PAGO, SAMOA, July 21

The recent annexation of the Hawaiian Islands as a territory of the United States has awakened among us a new interest in their agricultural, commercial, professional and educational status The wisdom of the consummation of such an act can not be questioned, as the United States has thereby gained a firm foothold in the Pacific Ocean at a point of great strategic importance and the islands have secured for themselves a permanent form of government and the most advantageous commercial relations with the outside world The inhabitants will be made to feel that

> "In no other state except that in which the power of the people is supreme has liberty any abode, than which nothing assuredly can be more delightful "—Cicero

The islands have natural resources that must be made available to the natives The rapid transitions from barbarism to a kingdom and from a kingdom to a republic, and from a republic to a territory of the great republic have left the agricultural and commercial interests of the islands in an unsettled state which, however, under the new administration will soon be remedied Since the foreigners have taken the reins of government in their hands prosperity and depression have followed each other at variable intervals of time, and the gains have found their way largely into the pockets of a favored few It is to be hoped that under the new rule booms and depressions will give way to a steady and more healthful development of the undeveloped resources in which the natives will reap their legitimate share

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*The previous articles in this series have been as follows Travel as a Means of Post Graduate Medical Education by Dr Nicholas Senn July 23 Is a Trip to Europe Worth Its Cost to the Medical Man by Dr Lewellys F Barker July 30 Spain and Ramon y Cajal by Dr Barker Aug 6 Leprosy in the Hawaiian Islands, by Dr Senn Aug 13 Italy and the Great Antimalarial Campaign by Dr Barker Aug 20 and 27 Father Damien the Leper Hero by Dr Senn Aug 27 A Winter Semester by Dr Barker Sept 3

The scenic beauty of the Hawaiian archipelago is exquisite The islands are of volcanic origin, mountainous, and clad with verdure and intersected by fertile valleys

HISTORICAL SKETCH OF THE ISLANDS

It is supposed that these gems of the Pacific Ocean became populated by the Polynesians from the distant Samoa Islands about the year 500 A D It is claimed that they were first seen by Juan Gaetano, a Spanish mariner, in 1555, but as he left no record, either at home or on the islands, of his visit their discovery must be credited to Captain Cook, who sighted them in January, 1778, and named them Sandwich Islands, in honor of Lord Sandwich On landing, the discoverer found them densely populated, the people peaceable, hospitable and extremely modest and courteous as they prostrated themselves on his approach and remained in this humble position until he and his escort had passed, a courtesy they always extended to their chiefs He found no indications of cannibalism, but human sacrifices, as in all the South Sea islands, were frequently offered. On his return from a voyage to the west coast of America the next year he was killed by the natives soon after landing at the island of Hawaii, at a place now indicated by a monument to the memory of the intrepid explorer The killing of Captain Cook was provoked by a drunken brawl of his sailors, which incensed the natives, and their wrath centered on the leader of the expedition His body was interred, and not eaten, as is so often claimed The political condition of the islands under the rule of different chiefs was a stormy one, wars between the different islands and tribes being frequent, until the Napoleon of the islands, Kamehameha I—born 1737, died on the island of Hawaii, 1819—after many bitter wars gained supremacy over all of the islands and ruled them in the capacity of a king His reign was humane and wise He abolished human sacrifice and introduced many other reforms most creditable to savage rule With the death of Kamehameha V the reigning family became extinct, and Kalakaua was elected king He died at the Palace Hotel, San Francisco January 20, 1891 His sister, Liliuokalani, succeeded to the throne By a bloodless revolution she was deposed, and the kingdom became a republic, January 19, 1893 After a number of futile previous attempts annexation was effected by an act of Congress, July 14, 1900 The present administration has already made many radical changes in the government of the islands which can not fail in bringing about a more prosperous future

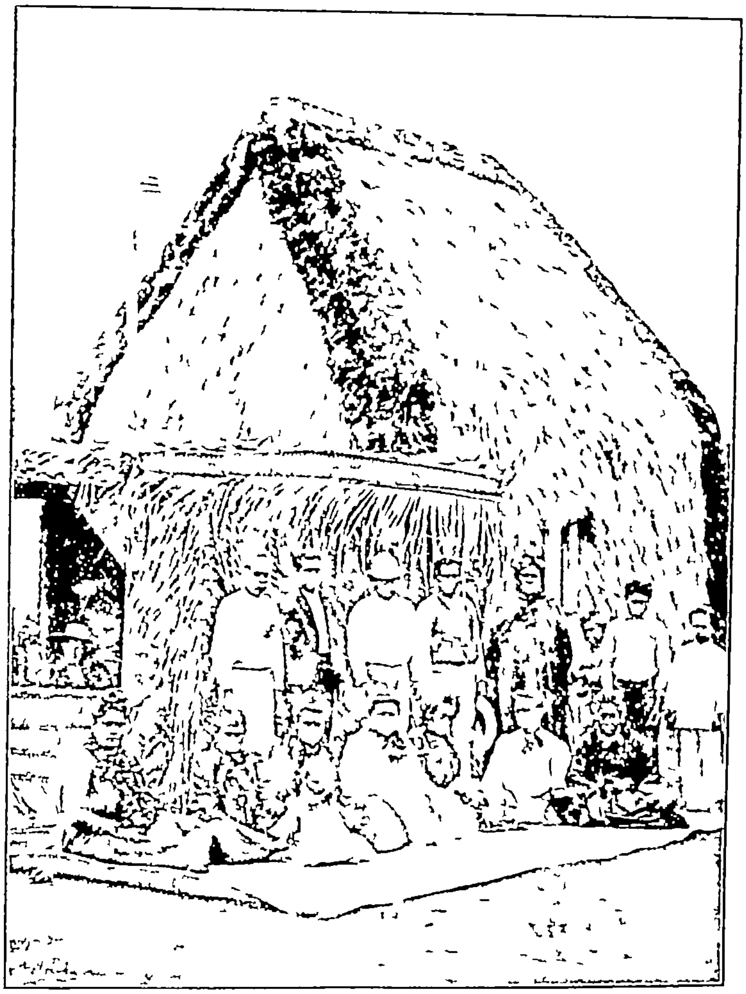

Fig 1 —Natives and native house

CLIMATE

The Hawaiian Islands enjoy an equable and salubrious climate It is the land of sunshine and breezes The northeast trade winds fan the islands 225 to 301 days out of the year, and their cooling and invigorating effects are enhanced by the daily land breezes Anyone who visits Honolulu for the first time and walks or rides along its well paved and clean streets any time of the year from 8 a m to 5 p m may feel the effects of heat and be thrown into a perspiration, when suddenly a land breeze descends from the mountains, cool and refreshing, making the visitor forget that he is in a sub-tropical region It is only when the atmosphere sleeps during midday that the stranger feels at all uncomfortable and seeks relief in the shade The average temperature throughout the year is from 69 to 78 F extremes, 50 to 90 F

NATIVE POPULATION

The Hawaiians are Polynesians resembling in habits and appearance the South Sea Islanders who by migration eastward from the Malay peninsula progressed from island to island, undergoing certain changes under climatic and other influences, but retaining to a great extent their originality In intelligence they are far superior to the negro race, to which they have absolutely no resemblance (Fig 1) Their greatest fault is the inborn indolence The average native makes no unnecessary effort, mental or physical They are as indifferent as children They abhor agricultural pursuits and prefer to live on the waterfronts, where they can secure their fish supply without much effort and amuse themselves with their national sports, swimming and canoe or surf riding They do not take kindly to the professions, and will only work under the pressure of necessity Civilization has rather increased than diminished their repugnance to labor

Fig 2 —Luau feast

The natives are generous to a fault, honest, easy going, with a happy disposition, but have an inordinate fondness for flattery They are very fond of flowers and music, but have little, if any, sense of art The leis (flower wreath) is found on all festival occasions, and is especially conspicuous at the luau feasts (Fig 2)

The mortality among the natives since the whites came to the islands has been frightful When Captain Cook discovered the islands all of them were densely populated, not less than 200,000 In 1836 their number was reduced to 108 579, and at present it does not exceed 30 000 In 1848 one fourth of the population was carried off by an epidemic of measles, shortly after another 3,000 died of smallpox The rapid decrease in the native population and their unwillingness to work creates a field for foreign laborers In 1898 there were in the islands 30,000 Japanese, 24,000 Chinese and 16,000 Portuguese, and since that time the number of foreign laborers must have certainly rather increased than otherwise, as there has been a considerable influx from Porto Rico since the Spanish American war

The effects of civilization on the natives has been harmful as well as beneficial The first missionaries came to Honolulu in 1820, when it was a village of huts, with 3,000 inhabitants For a long time they labored in vain, but in 1837 a strong religious movement swept over the islands and in a very few years paganism had entirely disappeared, at least on the surface Religion, however, did not change the habits of the people to any extent, for

> "Nothing is stronger than custom"—Ovid

The missionaries have brought these people the inestimable blessings of religion and education, but

> 'No sooner is a temple built to God, but the
> Devil builds a chapel near by"—*Herbert*

Education in Hawaii is now compulsory and within the reach of every child. There is no need for any young man or woman to leave the islands for a good general education as Honolulu has most excellent schools including a college and high school

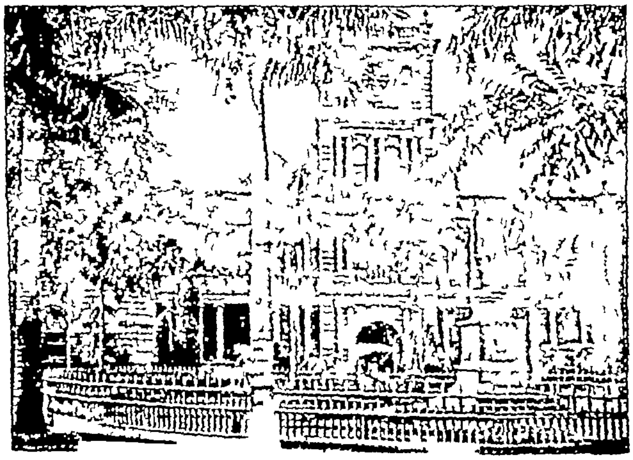

Fig 3—The government house Honolulu

Churches are numerous, both Catholic and Protestant The churches are better attended than in the states, and the people pay closer attention to the worship than our own They are emotional and easily influenced for right and wrong On the whole, the moral status of the Hawaiian would compare well with that of any of our communities On the other hand, the whites brought to the islands the devastating infectious diseases which have already destroyed nine tenths of the population, and which threaten complete extinction The rum shops and gambling are likewise the fruit of the white man s invasion Syphilis was unknown until the sailor and the adventurer disgraced the soil of Hawaii It must not be forgotten that the mind of the aborigines is more susceptible to the reception of vice than virtue, and the Hawaiians are no exception to this rule, so that many of their original natural virtues are on the wane On the whole the natives have paid dearly for what they received from the white man, as the very soil which belonged to them has largely passed out of their hands and is now owned by foreigners

PREVAILING DISEASES

Since the government of the islands has fallen into the hands of the white population every possible effort has been made to protect the natives against the spread of infectious diseases The board of health has been watchful and active in their efforts to improve the sanitary condition of the islands more especially that of the capital city, Honolulu Like all primitive peoples the Hawaiians have absolutely no appreciation of the importance of hygiene and sanitation, and consequently the surveillance of sanitary matters requires constant watchfulness on the part of the board of health

The efficiency of the Hawaiian Board of Health will compare well with any of our state boards It is made up of energetic men, who do their duty fearlessly and without regard to consequences The present board, recently appointed and organized, is made up of Dr C B Cooper, president, Dr W H Mays, S K Kane, Esq, M P Robinson, Esq, F C Smith Esq, E C Winston, Esq, and Lorrin Andrews, Esq

The last report, for the six months ending June 30, 1903 contains much valuable material concerning the present prevailing diseases It is a source of gratification to know from this publication that the reports of the government physicians from nearly every district are unanimous in stating that pulmonary tuberculosis, that has gained such a firm hold on the natives, is not increasing This report shows that during that time occurred 13 deaths from bubonic plague, from typhoid fever, 11, diarrhea and dysentery, 32, pulmonary tuberculosis 84, beri beri, 6, pneumonia, 30 The great mortality from tuberculosis shows to what extent the disease is still prevailing Honolulu, being one of the stations on the ocean highway to the Orient, is constantly menaced with the plague, and notwithstanding the great vigilance of the quarantine physician isolated cases will occur from time to time The stringent measures resorted to by the board of health the moment a case is discovered have so far protected the islands against an epidemic of this much dreaded disease. The most severe outbreak of the plague occurred in 1899 The disease was imported from Hongkong, and broke out among the Chinese and Japanese with great virulence, and soon attacked 80, of which number only 14 recovered A group of suspects of 500 to 700 was quarantined and in this way the further spread of the disease was checked After all danger from infection had been passed the barracks were burned During the entire epidemic only 3 whites were

Fig 4—Queen Emma consort of King Kamehameha III

attacked, and one of them died The same can be said of cholera In 1895 cholera, also imported from the Orient, broke out, but thanks to a stringent quarantine of the 80 or 90 cases, 70 per cent being natives, the disease was promptly stamped out, never extending beyond the limits of Honolulu In 1880 a severe epidemic of smallpox broke out and proved very virulent in the natives, as more than 10 per cent of those attacked died

Compulsory vaccination is now enforced by the board of health, will prevent all possibility of a similar occurrence in the future Scarlet fever has never been epidemic, and diphtheria has always been observed, and that very seldom in isolated cases Syphilis is not so common as formerly, but the hereditary effects are widespread and severe, and present and future generations will be made painfully aware of the truth of

'Posterity pays for the sins of their fathers"—
Quintus Curtius Rufus

Measles has always been the great curse of the primitive races, and it has claimed thousands of the Hawaiian population The fearful mortality attending this disease is usually attributed to the recklessness of the patients, as they will not keep their bed, but will persist in bathing to find relief from the fever heat I believe, however, that such imprudence on the part of the whites would not result so disastrously and that the frightful death rate is more attributable to the slight resistance to the disease on the part of the natives There ought to be very little, if any, typhoid fever in Honolulu under the present perfect system of water supply and sewerage The disease occasionally affects small communities where the sanitary conditions are not so completely under the supervision of the government physicians stationed in the 23 different districts Maui is the island that records the largest number of cases of malaria, 121 cases of dengue and malaria in six months, as stated in the last health report, while Kauai and Molokai report none, and only 3 cases are credited to Oahu and 3 cases of typho malaria and one case of typhoid The islands continue to supply the leper settlement with new inhabitants to take the place of the dead According to the report referred to above the number of lepers at the settlement at present is 888 In six months the population of lepers was increased by 62, at this rate the annual addition to the number of lepers would still be 124 The report also refers to a large number of suspects that remain under observation, and from which a large number will be recruited for the settlement as soon as an absolute diagnosis can be made

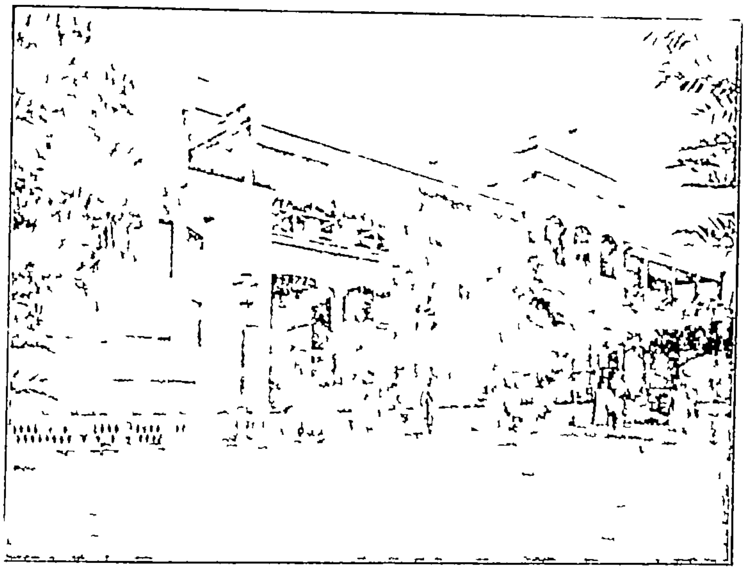

Fig 5—Queen's Hospital, Honolulu established by King Kamehameha III and Queen Emma in 1860

Dr W J Goodhue, a recent graduate of Rush Medical College, has taken up the cause of the Molokai lepers, and is the present resident medical superintendent He has already introduced many reforms, and is earnestly seeking for a remedy that will cure his patients He continues the Goto treatment but has no faith in it At the suggestion of the board of health he is also experimenting with the "Violet Ray" At present he is encouraged by the results of sodium cacodylate In his report he says "In sodium cacodylate, an arsenical derivative of relatively slight toxicity containing over 50 per cent of arsenic, I believe I have found a remedy of great promise in the treatment of leprosy My attention was first attracted to the remedy by clinical reports of the success attained with it in the treatment of psoriasis, and in diseases in which the wasting and disassimilation are marked features, although I can not find any account of its ever having been employed in leprosy It is administered hypodermically, per os, or by rectal enema, and it appears to be entirely free from any appreciable irritative effects on the intestinal or rectal mucosa. I have a limited number of patients on this treatment who, so far, after being on the treatment for from two to three months show very decided improvement, and I am only awaiting a large supply of the drug before materially increasing the number of patients when I hope to submit a detailed and favorable account to the board of health of the results obtained"

Before disposing of the subject of leprosy and in reference to a former communication on the same, I will add that during my short visit at Honolulu *en route* I met a number of the most influential physicians, and they were all unanimously opposed to making the whole Molokai Island a leper home They base their opposition on business principles They, as well as the business men in the islands, fear that if this were done the outside world would be prejudiced against the islands, and in consequence the value of property would be depreciated and business injured There is considerable weight to this argument for the present, but as in the course of time, when it becomes generally known that the colonization of the lepers would be limited to the Molokai Island, such objection would no longer apply Still, this is a matter, as I have stated before, for the territorial and general government to consider and decide

THE MEDICAL PROFESSION

The medical profession of the island territory is one of the most desirable things that we have inherited by the annexation, a worthy addition to the large body of practitioners of the United States It is made up largely of young, energetic men who came here well prepared for their lifework The door of entrance to the practice of medicine is well guarded Every candidate must pass a satisfactory examination before a board of examiners appointed by the governor This board consists of four members who, to judge from the character of the men who have been licensed, make no farce of the examination, as is only too often done in the states The question of school is not considered, all must pass the same critical test, and if found qualified they can practice any system they please There are now about 100 licensed physicians in the islands about 60 in Honolulu, and the rest scattered in the 23 districts

Every district has what is called a government physician, who looks after the poor and sanitary matters, and is paid on an average about $1,000 a month for his services These doctors make a semi annual report of their work to the board of health Through these channels the board of health reaches the most distant parts of the islands, and thus insures prompt and efficient sanitation Among the older practitioners in Honolulu belong Drs McGrew and McKibbin, and Dr W E Taylor, a retired naval surgeon Dr C B Cooper is president of the territorial State Board of Health Dr F R Day, a graduate of Rush Medical College, Dr C B Wood, ex interne at Cook County Hospital, and Dr Walter Hoffmann, a graduate of Germany, are the leading practitioners The sick of the yellow races are cared for by 12 Japanese and 2 Chinese physicians For the benefit of recent graduates I would say that Hawaii has all the physicians it can well support at present it is no Paradise or Eldorado for a new beginner The field is well occupied, as most of the men would be hard to discount, and the present depressed condition of the sugar interests is felt throughout the islands There are only three or four men in Honolulu who have been there for years and who are very popular that can put down their annual income in five figures

Some of the physicians with a smaller income add to it by conducting at the same time some business enterprise

QUEEN S HOSPITAL

Queen's Hospital is the only hospital in Honolulu It was erected and endowed by the late Queen Emma (Fig 4) who took a deep interest in charity work (Fig 5) It is a handsome structure *located in the center of a park* ornamented with flowers and tropical trees and shrubs The palm avenue leading from the street to the entrance of the hospital, is one of the finest *I have ever seen* The hospital is managed by a board of trustees, composed of forty members, and represents the most influential men of the city The hospital has a capacity *for ninety patients* and the new wing which is nearing completion will accommodate an additional fifty Four physicians appointed by the board of trustees constitute the staff Formerly these physicians were salaried, but I presume in consequence of the additional expenditure incident to the building of the new wing, and the depression in the value of the real estate in which *the endowment* largely consists, the salaries have been withdrawn The equipments of the hospital are adequate, and the new operating room will fill *a long* felt want The nursing is in the hands of eight trained nurses, who receive a monthly salary of from $40 to $50 Experiments have been *made to train native young women*, but they failed, so that the hospital is put to the large expense of hiring trained nurses The indigent native sick are amply provided for and others pay according to their means

MEDICAL SOCIETY OF THE HAWAIIAN TERRITORY

The first attempt to organize the medical profession in Hawaii was made through the instigation of Dr H W Howard, in 1893, when the physicians of Honolulu met from time to time in each other's houses, thus combining social with professional *interests Under the above title a permanent organization* has been effected with monthly meetings at which physicians from the different islands attend so far as transportation facilities will permit It is a source of regret that the transactions, so far, have not been published, and, in view of the importance *of the subjects that are discussed from time to time, more* particularly everything pertaining to tropical diseases and island sanitation, the reports of many of these meetings would *make interesting* and profitable reading for the medical world

(*To be continued*)

Clinical Reports.

A PROCEDURE FOR FACILITATING THE EXPERIMENTAL TESTING OF RABIES

A P OHLMACHER, M.D

(From the Pathological Laboratory of the Ohio Hospital for Epileptics)

GALLIPOLIS, OHIO

In the course of a *considerable number* of cases in which our laboratory has been called on *to make a diagnosis* of rabies in dogs or cattle, I have found it possible to expedite the examination and minimize the danger to the operator by a simple method which is not described, and which is original if not novel As is well known to those interested in the experimental study of hydrophobia *the material for examination* which usually finds its way to a laboratory consists either of the carcass or the head and neck of a dog or other suspected animal To prosecute the requisite tests one must obtain certain ganglia for making the rapid histologic examination (the Van Gehuchten Nelis test), and *a portion of the brain or cord, preferably* of the medulla, for experimental inoculation Ordinarily the brain of the suspected animal is exposed by piecemeal clipping off the dome of the skull and the arches of the vertebra by means of bone forceps This process is laborious and dangerous, inasmuch as the operator may injure his hands on projecting spiculæ of bone or be struck by flying osseous fragments The substitute which I have adopted and successfully practiced consists in transecting the skull by sawing after dissecting away the soft parts For this purpose we are *accustomed* to employ the modified butcher s saw recently described and illustrated by my *associate, Dr* W H Buhlig,[1] although any large saw will answer the purpose The line of saw cut is midway between the orbits and the auditory meatuses at right angles to the cranio vertebral axis By means of heavy gloves the hands of the assistant who steadies the head and those of the operator are protected *The sawing is continued until all resistance* by bone beneath the skull is overcome, then the bisected portions may readily be pressed apart and the divided brain becomes fully exposed

With a sterilized spatula the posterior portion of the cerebrum is removed Then the tentorium is chipped away with sterilized heavy scissors, or *bone forceps, though it is possible to dig out the cerebellum and* expose the fourth ventricle without doing this With the dorsal surface of the medulla thus laid bare, it becomes *a simple matter to cut out* with sterile scissors or scalpel, and forceps, one or more small cubes which constitute the material from which the emulsion for experi*mental inoculation is prepared It is our practice to make* such an emulsion for immediate use from one portion of the medulla, *and to preserve another portion* in sterile glycerin for future use Furthermore, we practice two methods of inoculation in rabbits—the intra cerebral injection of Leclainche Morel[2] and the intranasal method of Galtier[3]

It now remains to obtain ganglia for the Van Gehuchten Nelis *histologic test I have found the gasserian ganglia to present* very excellent and characteristic histologic pictures in dogs affected with street rabies, and have accordingly made it a routine procedure to obtain both these ganglia, each of which, because of its large size *may be split on the flat*, one slice being fixed in absolute alcohol or Carnoy's acetic acid chloroform-alcohol mixture for the rapid preparation of sections, after *paraffin imbedding, the other portions being fixed in formalde*hyd solution to prepare for immediate frozen sections or for permanent preservation With the skull bisected as described above, and the brain removed it becomes a *simple matter* to dissect out the gasserian ganglia

Ordinarily it is also desirable to secure one or more intervertebral ganglia to control the histologic test These are to be obtained by *opening the cervical vertebral canal by clipping away* the arches of the vertebra in the usual manner, fully exposing the spinal cord and its nerves with their ganglia

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METRORRHAGIA IN TYPHOID FEVER

WILLIAM HIMMELSBACH, M D

SAN FRANCISCO

Woman, aged 35 unmarried, presented herself at my office with a temperature of 102 5 F and a history of bronchitis vomiting and general malaise She was at once sent to Lane Hospital In a few days the case was *diagnosed typhoid fever* Enlarged spleen, "*pea soup*" *diarrhea and abdominal spots* manifested themselves, Widal reaction being negative, finally with interval of several days, a positive Widal was obtained thus clinching diagnosis On January 20 there was a pronounced uterine hemorrhage, prior to this the temperature was 103 5, shortly *followed by a drop to 100*, with subsequent rising A careful bimanual pelvic examination excluded any lesion, and close questioning and absence of characteristic odor eliminated the menstrual flow *All efforts* to check the hemorrhage were futile. After two days it ceased spontaneously About the *twentieth day* the temperature declined to 100 2 F , and suddenly, preceded by a pronounced chill, shot up to 104 F An examination *of the chest* demonstrated a pneumonia involving the lower lobe of the right lung

It took the usual course, and the patient was eventually discharged some six weeks later

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[1] General and Special Methods in the Postmortem Examination of the Brain and Spinal *Cord* Cleveland Medical Journal January 1904.

[2] L Inoculation Intracerebrale du Virus Rabique Annal de L Institut Pasteur No 6 1899

[3] Vera Solomon Experimentelle Untersuchungen über Rabies Cent f Bakter Erste Abteilung No 3 1900 p 76

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BACTERIAL INVASION OF THE BLOOD

Examination of the blood of patients for bacteria during life is altogether too infrequently practiced in view of its extremely great diagnostic value, and until the last few years it has been almost entirely neglected In consequence of this our knowledge of the bacteriology of the specific infectious diseases has been largely derived from findings made through cultures obtained at postmortem examinations, and the value of such findings as an index of the conditions that existed during the life of the patient has been open to question It is known that during the last hours of life the resistance of the blood to infection may be so lowered that an "agonal invasion" by pathogenic bacteria may occur Again, putrefactive bacteria are liable to spread from the intestines and make their way through the body, causing postmortem invasion" Hence the actual value of cultures made at autopsy from the heart's blood and the different viscera has been somewhat uncertain Since so much of our information rests on such results as postmortem examination can yield, the publication of results obtained in 1,200 autopsies under carefully supervised conditions is of no little importance Dr M Simmonds publishes the complete report of the bacteriologic examination of the heart's blood of cadavers made by himself and his assistants in the general hospital at Hamburg from 1900 to 1903, and analyzes them critically in a recent number of Virchow's *Archiv*[1]

From their results it would seem that such postmortem examinations, if made within forty hours after death, and on a body kept in a cool, dry place, give a much better index of the antemortem condition of the blood than has generally been believed In such cases as had been examined during life for bacterial invasion of the blood, the findings at autopsy were regularly the same In the rest of the cases the blood was found sterile or infected with whatever organism would be expected to be present in the disease that caused death Postmortem invasion of the heart's blood seems to occur very seldom within forty hours after death if the body is kept cold, and the importance of agonal invasion seems to have been exaggerated

About half of all the bodies examined (48 per cent), death having resulted from all sorts of causes, were found to contain bacteria in the blood of the heart As this blood cools down slowly after death, because of its central location, the number of bacteria is quite different from the number in the circulating blood, for they may multiply greatly after death, but otherwise the findings afford accurate information concerning the blood during the patient's last hours A number of striking facts are developed from these results First may be mentioned the infrequence of mixed infection, for of 575 positive findings in but 26 were two kinds of bacteria demonstrated, and but once three kinds, in 95 per cent a single variety of organism was present in pure culture Of the different forms present, the streptococcus is by far the most important, for it was found 363 times in this series which represents the ordinary causes of death as seen in a large general hospital, while the pneumococcus appeared but 101 times, colon bacillus 97 times and staphylococcus 34 times

In other words, in almost one-third of all fatal diseases as they occur in the population at large, streptococci have entered the blood before death, and presumably played a greater or less part in bringing about the fatal termination The overwhelming importance of this organism is made very apparent by this study It appears in the blood in all sorts of conditions, and in many diseases is probably the chief cause of death Its relation to scarlet fever, which we have discussed in these columns before, is clearly shown, for it was present in 88 of 129 fatal cases, the blood being sterile only in the cases where death occurred in the first three or four days before pharyngitis had set in, or when death was due to nephritis or other complications after the acute stage of the disease was over Simmonds agrees with von Dencker that in most cases the malignancy of scarlet fever is due to this organism but that it has nothing to do with the cause of the disease Streptococci are but little less often invaders in diphtheria and here also enter the blood when there are serious lesions in the pharynx and upper air passages The diphtheria bacilli themselves were not found in the blood once in 68 fatal cases In measles streptococci were found but four times in ten cases

Bacillus coli has generally been looked on as a source of error because of its supposed frequent entrance into the blood and tissues shortly before or shortly after death Simmonds, however, found it in the heart's blood chiefly in diseases in or near to the alimentary canal, and does not consider it likely to be present in the blood after death unless it has entered during the course of the disease Chronic heart disease, nervous diseases poisoning and acute tuberculosis cases gave almost invariably no growths from the blood, showing that our ideas of "terminal infection" "agonal" and "postmortem" invasion have probably been exaggerated

An important observation is that bacteria may enter the blood in large numbers within a very short time after operations and injuries, and later again disappear entirely Also in peritonitis from appendicitis, etc the blood was frequently sterile whereas if the peritonitis followed an operation the blood was almost always infected, apparently indicating that the wound favors the entrance of bacteria into the blood, this must have much effect on the outcome of the peritonitis

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[1] 1904 vol clxxv No 1

Many fatal cases occur in which, without the bacteriologic examination of the blood, it would be impossible to determine the cause of death, as in acute septicemias, and many others are easily capable of wrong interpretation. It is not going too far to say that any autopsy made without a bacteriologic study of the blood and the organs is but half made No matter how clear the anatomic findings may be, there is always a large possibility that the bacterial findings may alter considerably the final conclusions concerning the case

THE IMPORTANCE OF DROPLET INFECTION IN PULMONARY TUBERCULOSIS

Some three or four years after the discovery of the tubercle bacillus by Koch, the researches of Cornet demonstrated the great part played by dried sputum in the spread of the disease, particularly the pulmonary form In fact, the idea that the inhalation of dried sputum was almost the only, or at any rate by far the most common, method of transmission of pulmonary tuberculosis, gained a strong footing in the medical profession The idea that the tuberculous individual could exhale from the mouth infective material seemed at first an improbability on account of the well-recognized bacteriologic law that bacteria are not detached from moist surfaces Still, it was known to bacteriologists that bacteria could be detached from moist surfaces in the form of a spray, and it remained for Flugge and his pupils to show, in 1897, that in tuberculous individuals during coughing and even during speaking, a fine spray actually is given off the watery droplets of which contain tubercle bacilli As a result of this discovery, Flugge formulated his theory that the inhalation of these droplets, which are found floating in the air for some distance around the patient is one of the important sources of infection in pulmonary tuberculosis There can be no doubt that from a purely experimental point of view the researches of Flugge and his pupils uphold the possibility of this mode of infection Heymann for example, exposed cover-slips in the near neighborhood of thirty-five tuberculous patients while they were coughing, and was able to demonstrate tubercle bacilli in the cover-slips from fourteen of them The same observer was able to produce tuberculosis in guinea-pigs by exposing plates in the neighborhood of tuberculous patients and inoculating the animals with washings from the plates He was also able to produce tuberculosis in six out of twenty-five guinea-pigs by merely leaving them in the near proximity to coughing tuberculous patients

In a recent study Saugman[1] thoroughly reviews the literature of this subject and gives his own conclusions based on an extensive study He points out very properly that theories like that of Flugge, while they are based on sufficient experimental evidence, are often accepted before they are thoroughly tested under natural conditions In the case of droplet infection he points out that we have one class of individuals in whom it should certainly occur if there is anything in the theory namely, physicians in sanatoria for tuberculous patients, and physicians in nose and throat clinics There is evidence to show that in the latter there is plenty of opportunity for infection Tubercle bacilli have been isolated in such clinics from head mirrors, from spectacles worn by physicians, and even from the cheeks of the physician It is apparent, too, that physicians who are daily examining the lungs of tuberculous patients must similarly be exposed to droplet infection As a basis for his study, Saugman collected statistics from a large number of sanatoria and nose and throat clinics as to the history of the physicians who had been employed in those institutions So far as the sanatoria were concerned, it was found that many of the physicians were suffering from tuberculosis when they entered as assistants, but of 174 physicians who entered the sanatoria in perfect health, and lived there three or more years, none had died of tuberculosis, and only two had contracted it The returns from physicians who worked in throat clinics were even more striking, though here a smaller number of returns were obtained Of 64 physicians working in throat clinics who entered on their work in perfect health, not one had contracted tuberculosis

Saugman discusses in a general way the reason for this immunity He naturally finds it difficult to do this on account of our lack of accurate knowledge as to the exact factors which predispose to tuberculosis On the grounds that some local defect in the lungs must be present (local predisposition) he suggests the possibility of its absence in these cases but excludes this, as it would be extremely improbable that such a lack of local predisposition would occur in so many individuals On the same grounds he excludes an immunization due to old healed foci He thinks it possible that physicians of the class mentioned may become gradually immunized against tuberculosis by daily infection with very small doses of the bacilli, and in this connection he points out that the average droplet given off by coughing only contains from one to twenty bacilli, and that the dose needed to infect is probably thousands of bacilli His conclusions appear conservative, he merely states that his study shows that the droplet infection probably plays but little part in the infection of adults in health He fully realizes that the same may not be true of children or those weakened by disease, and he also recognizes the fact that physicians, particularly those living in sanatoria, are under exceptionally favorable hygienic conditions We need hardly point out that among the poor and uncleanly in crowded tenement districts droplet infection may play a much more important rôle. In any event, the results of Sangman's studies, as he himself insists, should not cause us to abate one jot our precautionary measures.

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[1] Zeitschrift für Tuberculose, vol vi No 2

ACID INTOXICATION

It is said that acetone in small quantity appears normally in the urine, but the amount becomes pathologic at times in connection especially with certain disorders of metabolism, of which diabetes is the most familiar example. Of itself it gives rise to no symptoms, but its presence is often associated with that of other substances, especially diacetic acid and beta-oxybutyric acid, and when abnormal phenomena make their appearance they are probably due to the latter. All of these are probably the results of some derangement in fat-metabolism. The development of stupor followed by coma and death, after operations on patients, particularly diabetics presenting acetonuria, has been observed rather frequently, while the occurrence of acid intoxication under various conditions had been earlier recognized.

Drs. E. G. Brackett, J. S. Stone and H. C. Low[1] report a group of cases presenting the following symptom-complex: Vomiting, associated with collapse, weak and rapid pulse, absence of fever until just before death, cyanosis in the fatal cases with extreme dyspnea, apathy and stupor alternating with periods of restlessness at first, but in fatal cases gradually deepening into coma and death, and the presence of acetone on the breath and in the urine. In six cases the symptoms developed in the sequence of operation, while in seven they set in independently of any operative procedure. Of the former three and of the latter one died. The children in whom the symptoms were severe exhibited a high-strung, nervous temperament. The symptoms were in general more severe in those operated on than in those not submitted to operation.

The first symptom to attract attention was the vomiting. The vomitus was always bile-stained, becoming dark but never bloody. Restlessness was at first associated with the vomiting, but occasionally there was a certain amount of apathy either preceding or alternating with periods of restlessness. The milder cases presented a varying degree of restlessness, while in the severer cases collapse was marked. In some of the severe cases cyanosis became pronounced in a short time. Recovery occurred in no case in which cyanosis was marked. As the color changed restlessness was followed in some instances by delirium, but in all of the fatal cases stupor gradually supervened, becoming more profound and gradually passing into coma. In the fatal cases death resulted in from twelve to thirty-six hours after the onset of the symptoms, generally after about thirty hours. Death seemed to be due in some cases to lack of oxygen. Postmortem examination in several cases disclosed fatty degeneration of the liver and of the muscles. Acetone and diacetic acid were found in the urine in practically all of the cases in which they were looked for. In a number of cases muscular atrophy was present.

In the line of treatment the administration of sodium bicarbonate by mouth or in enemata and infusion of large amounts of saline solution proved most serviceable. The etiology and pathology of the condition are obscure, the only satisfactory explanation attributing the symptoms to some derangement of metabolism giving rise to acid intoxication.

MORAL INSANITY

The line of demarcation between sanity and insanity, like that between health and disease, is sometimes so nebulous that it becomes exceedingly difficult to decide where the one ends and the other begins. It is not a matter of wonder, therefore, that differences of opinion should arise in this connection, particularly when the question of responsibility is raised. There has been not a little discussion as to the existence of so-called moral insanity as an entity, but despite the objections to its recognition the disorder has retained its place in mental nosology. Perhaps the term moral imbecility would be preferable. The affection must be looked on as a degenerative one of congenital origin. The general intellectual functions may be unimpaired, while the moral sense is lost in greater or lesser degree.

What must be considered one of the most remarkable instances of moral or criminal responsibility on record has been reported by Dr. H. R. Stedman[1] in the case of an unmarried professional nurse 45 years old, who, there was sufficient ground for believing, had fatally poisoned twenty persons and on several occasions had made attempts at incendiarism. She also twice took poison with suicidal intent, assigning jealousy as the reason for her act. Her favorite method of administering the poisons employed was in Hunyadi water or by enema, combining the drugs in kind and proportion so that the resulting effect was an unusual and perplexing set of symptoms. There were no delusions of enmity or persecution. The patient was examined by a commission of three physicians, appointed by the court as the result of an arrangement between the prosecution and defense, and the conclusion was reached that she was insane and irresponsible at the time of the homicides, without hope of recovery. The patient was accordingly declared not guilty by reason of her insanity, and she was thereon committed to a state hospital for the insane for the remainder of her life. During the trial the attitude of the woman is described as more that of an interested spectator than that of a prisoner on trial for her life.

For a year or more the patient did well, but subsequently developed delusions of persecution and poisoning, with hallucinations of hearing, and her nutrition became greatly impaired. Her father had been an eccentric man, who had placed her and her sister in a foundling asylum. One of her sisters was a chronic dement, mother led a dissolute life As a girl the patient exhibited incorrigible propensities for deceit, falsehood and trouble-making She began her career as a nurse at the age of 28, attending successively two training schools, but being dismissed from both before graduation She was recognized to be queer and peculiar In some instances she secured the removal of patients not agreeable to her by making false charges against them, and in other instances she kept favorite patients in the hospital by reporting the presence of fictitious symptoms

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[1] Boston Medical and Surgical Journal, July 7, 1904, p. 2.

[1] Boston Medical and Surgical Journal, July 21, 1904, p. 57.

ARTERIOSCLEROSIS

The subject of arteriosclerosis is one of perennial interest, and one concerning which, in spite of the immense amount of study which has been devoted to it, much yet remains to be cleared up It has recently been discussed in Germany before the Congress for Internal Medicine,[1] and in this country before the Pathological Society of Philadelphia[2] and the American Medical Association

The paper of Marchand before the German congress which discusses the subject in its wider pathologic aspects, considers under the term arteriosclerosis all those changes in the arteries which lead to a diffuse or nodular thickening of the wall, especially of the intima, in the development of which degenerative, sclerotic and calcareous changes occur This conception necessarily excludes pure hypertrophy of the media, and syphilitic processes occurring in the medium sized and small arteries The essential factor which is at the bottom of all cases of arteriosclerosis according to this author is a mechanical one, *viz*, *an over filling, or temporary or permanent increase of the arterial pressure, which may be due to local injuries, or to general processes in the form of intoxications, general nutritional disturbances, or similar factors* The primary change in the vessel walls in all of these cases is in the elastic coat, and consists of a weakening of this The later changes of a degenerative and sclerotic nature are essentially secondary and compensatory in character Coplin's study, which covers essentially the same ground as Marchand's, leads him to practically the same conclusions, he also lays great stress on the fact that the disease is primarily a disease of the elastica

The importance of increased arterial tension as a *causative factor in arteriosclerosis* is forcibly brought out by the experimental studies of the younger Erb which completely confirm the similar studies published by Josué[3] Erb was able to produce experimentally lesions which essentially resembled those of human arteriosclerosis by frequently injecting into the circulation of animals small doses of adrenalin Coplin has been able in a number of cases of human arteriosclerosis to find lesions in the adrenals and this fact, together with the occasional observation of increased arterial pressure in certain adrenal lesions, such as adenomata, should lead to a much more extended study of these glands in arteriosclerosis Even at the present time certain writers have suggested that arteriosclerosis is always of adrenal origin, and that toxic substances which were supposed to produce vascular lesions directly do so rather by their indirect action on the adrenals which they stimulate and cause to hypertrophy

Inasmuch as adrenalin is being advocated in an increasing number of conditions, and particularly in various forms of hemorrhage, these observations should lead to a care in the selection of cases in which it is used While its temporary use in acute illnesses like typhoid fever seems perfectly justified, it would seem inadvisable to use it for any length of time, particularly as the liability to arterial change which follows this disease is now well recognized It can be imagined that where the hemorrhage is due to, or accompanied by some subacute or chronic vascular lesion, the use of adrenalin might be contraindicated Our knowledge of the action of this substance at present covers almost entirely its action on normal vessels, and only clinical experience will certainly define its dangers In any event caution in the use of this remedy seems indicated

THE ABOLITION OF THE BREAD TAG

It is reported in the daily press that the United Master Bakers, in their recent convention at St Louis, have decided to discontinue the practice of pasting labels on loaves of bread This is an eminently rational decision It is apparently a small matter at first sight, but the unhygienic possibilities of the practice readily suggest themselves It is not a pleasant thought that the union label, pasted on an important article of food, has been stuck there by the spittle of the workman, but it is a probability that can not very well be ignored We all of us have to eat dirt more or less throughout our lives but this does not imply we should be compelled to do so needlessly The bakers' decision is a commendable one and shows that they are properly awake to hygienic demands

THE PRESENCE OF BACTERIA IN THE VISCERA OF HEALTHY ANIMALS

There has been not a little discussion as to whether the solid viscera of healthy animals contain bacteria or not, and the evidence bearing on this question has been most contradictory There are, however, so many opportunities for contamination and loopholes for error in investigations along this line that the reported results can not all be accepted without reservation A valuable contribution to the data on this subject has recently been published by Dr *H deR Morgan*,[1] who made a careful study of the viscera of rabbits, cats and dogs with the strictest precautions, and found micro-organisms *in 26* per cent of the examinations The bacteria however, were those ubiquitous in the atmosphere, and there is reason to believe that their presence was accidental, the germs or their spores probably adhering to the moist surface of the viscera during their exposure in the course of the postmortem examination The correctness of this latter suspicion was demonstrated by exposing sterilized viscera under like conditions, and obtaining the same micro-organisms on culture Accordingly, the conclusion is definitely reached that normal organs do not contain pathogenic bacteria, while the presence of non-pathogenic bacteria in cultures is probably due to accidental contamination

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[1] Münchener med Woch Nos 17 and 18, 1904

[2] Proceedings of the Pathological Society of Philadelphia May 1904

[3] Presse Médicale Nov 18 1903 No 36

[1] Lancet July 2 1904 p 21

TUBERCULIN IN TREATMENT OF NON TUBERCULOUS AFFECTIONS

A recent communication[1] from Maragliano's clinic at Genoa calls attention to the constancy of a great increase in the number of red corpuscles in case of a small, rather torpid tuberculous focus somewhere in the body These findings suggested the possibility that the minute amounts of antibodies generated in the course of such an inactive process, might be the cause of the hyperglobulia observed This assumption was sustained by the constantly positive findings when guinea-pigs were injected with small, repeated doses of tuberculin the result invariably being a pronounced hyperglobulia These findings further suggested in turn the possible application of the measure in treatment of all kinds of anemia and chlorosis, not necessarily of a tuberculous character Tuberculin in the minute "refractory" doses employed is harmless and is being given a thorough trial now in the clinic, the results seem to be promising, although it is too early for a definite conclusion to be reached The subjects are patients with blood impoverished from any cause Hyperglobulia may co-exist with pallor which is probably the reason why so little attention has been paid to the hyperglobulia of incipient tuberculosis or it may be due to the fact that by the time the patient reaches the physician this early stage of hyperglobulia may be past The induced hyperglobulia may be one of the factors co-operating in the benefit that has followed tuberculin treatment of tuberculosis Swan's article on the "Blood in Tuberculosis," in THE JOURNAL March 12, 1904 is cited in the communication but Swan's patients had passed beyond the phase of a merely torpid focus

CONTRACT PRACTICE

From time to time THE JOURNAL has editorially called the attention of its readers to the evils of contract practice and the need of eternal vigilance on the part of the profession to prevent the installation of a condition of affairs in this country similar to those existing in other lands like Great Britain Germany and Australia It has seemed to us at times that the medical press in this country was not sufficiently alive to these evils which have already appeared in some sections In a recent issue of the *New York Medical Journal* Dr Burnside Foster of St Paul calls attention to the need of action on the part of the profession, and points out the dangers from already existing contract practice in certain parts of the country Dr Foster shows that the remedy for the condition rests with the profession itself, and that only by its united action can its own further exploitation be stayed We need not here repeat the arguments against this form of practice, they should suggest themselves to every thinking physician We have the advantage of the experience of our brethren in other countries, and it would be a pity if we should have to learn in the same hard school Inaction on our part, however, will inevitably lead to this result Every form of contract practice proposed or already existing should have the most rigid scrutiny of the profession When cabinet ministers, as is alleged is the case in Australia, take advantage of membership in so-called benevolent societies to sweat the medical profession, we can see how far the evil may progress There is need of some addition to the published ethical principles as regards this point, and it is a good sign that in Minnesota and in a few other states they are already alive to the situation

OPTIMISTIC PROPHESYING

We are somewhat accustomed to optimistic statements in medical literature The advances in medicine have been so marked in late years that it seems rational to some people to anticipate in the near future results that a few years since would have seemed impossible, if not miraculous Thus we hear the extermination of tuberculosis confidently foretold, and some are even ready to prophesy that all disease and physical afflictions, excepting surgical accidents, will be abolished by the triumphant advance of medical science One of the latest of these prophets, in Great Britain, is reported to have claimed that all infection will be done away with, all noxious bacteria exterminated, and men in a hundred years from now will live a century, death being a sudden collapse from a painless exhaustion of the organs Even "a general flavor of mild decay," which would be due to the continued action of hostile bacteria is apparently not included in his consideration of the subject We can admit that a great deal has been done toward conquering disease, and that some of the most formidable scourges of mankind have been robbed of their terrors, and that the advance of medicine along this line still continues We must remember, however, that death and decay are as natural laws as birth and growth and that with all our knowledge of the causes of disease and its prevention, there yet remain many lacunæ Some diseases are conquered, others seem likely to conquer us It is not long since that a leading surgeon pointed out that at the present rate of increase of cancer mortality it would soon be the prevalent cause of death, at least in certain sections of the country This is not a pleasant prospect, and there are other disorders of which similar things may be said Our discovery of the microbe of a disease does not necessarily insure our ability to prevent or conquer it Pfeiffer's bacillus is hardly if at all less malignant at the present time than it was when grip first became epidemic Diseases of the heart and nervous system show few or no signs of decrease and new disorders appear from time to time We would not discourage a rational optimism but a reasoned apprehension of possible evils is safer than rainbow chasing in medicine at least is a guide to conduct Certainly it is far better than any reliance on presumptious prophesyings, no matter by what high authority Our profession will not be out of business for some time yet

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[1] Gazzetta degli Ospedali vol xxv No 70 June 12 1904

Medical News.

CONNECTICUT

Medical Examiner—Dr D Chester Brown, Danbury, has been appointed medical examiner of Sherman, vice Dr John N Woodruff, Sherman, deceased

Home and Abroad—Dr Thomas H Welden, first selectman of South Manchester, returned from Europe, August 22 ——Dr Anthony J Hill, Torrington, sailed for Queenstown August 25 ——Drs Edward M McCabe and Stephen J Maher New Haven sailed for Germany, September 1

Infectious Morbidity—During July the State Board of Health received reports of 103 cases of measles in 26 localities 65 of scarlet fever, in 22 localities, 5 of cerebrospinal fever in 3 localities, 63 of diphtheria, in 25 localities, 31 of whooping cough in 9 localities, 61 of typhoid fever in 26 localities and 27 of consumption in 17 localities

July Mortality—The total reported mortality for July was 1 405 276 more than for the previous month 9 less than for July, 1903, and 6 less than the July average for the five preceding years The mortality was at the annual rate of 17 6 per 1,000, and 32 per cent or 450 deaths were due to infectious diseases Nervous diseases caused 133 deaths, violence 102 consumption, 100, heart disease, 99 and pneumonia 38

ILLINOIS

Peru Man Not a Leper—A conclave of Peru and La Salle physicians, aided by an expert from Chicago, has decided that Mathew Nubraski, supposed to be suffering from leprosy, was suffering from a skin disease of an entirely different nature

Fined, But Escapes.—Father Anseline, the so called "Quaker doctor,' who has been vending patent medicine in Moline, and was charged with practicing medicine without a state license was found guilty and sentenced to pay a fine of $100 and costs The defendant took the precaution to cross into Iowa before the verdict was announced

Milk Sickness Reappears—The State Board of Health on account of the reappearance after a lapse of many years, of what used to be known as milk sickness," and was supposed to be contracted by drinking the milk or eating the flesh of cows that had the "staggers," is continuing a study of the disease, and is accumulating information regarding it from the four counties in which it has appeared Four of the cases have proved fatal

Personal.—Drs James L. Taylor and B Barret Griffith have been appointed members of the Springfield Board of Health ——Dr Frank R. Wheeler, Auburn, is seriously ill from overwork, and has gone to Denver ——Dr Charles N Palmer, Clyde, was robbed of $180, while leaving an excursion steamer in Chicago ——Dr John N Nelms, Taylorsville was thrown from a bicycle, August 27, fracturing his right malar bone and bruising his head and shoulders

Chicago

Money for St Luke's.—By the will of Mrs J H McVicker $10,000 is devised to St Luke's Hospital

Deaths of the Week.—During the week ended September 3 491 deaths were reported, 10 more than in the previous week, an annual mortality rate of 13 27 per 1,000 Violence caused 69 deaths, acute intestinal diseases, 86, consumption 61, and heart diseases, 32

Hospital Dedicated.—The Washington Park Hospital, at 6010 Vincennes Avenue, was formally dedicated, September 5 Dr Carl O Young is chief of staff, and the staff includes Drs John B Murphy, Frank Billings, Archibald Church, William A Evans and Alfred Hakanson

August Mortality—The annual death rate for August was 12 93 per 1,000, 18 6 per cent lower than the average rate of the past decade The most important decreases were in deaths of children under 5, and especially in the contagious diseases of childhood, and in impure water diseases The principal cause of death was acute intestinal disease, with 467 deaths, consumption caused 256 deaths, Bright's disease 125 and pneumonia, 116

Statistics of the Summer Quarter—There were 5,820 deaths in June, July and August, equivalent to an annual mortality of 11 95 per 1,000 This is a reduction of 15 6 per cent, as compared with the summer quarter of 1903 The greatest reduction, 502, was among those under 5 years of age—a decrease of nearly 22 per cent Among the important causes of death showing an increase were Apoplexy, 5, Bright's disease, 21, consumption, 32, suicide 13, and other forms of violence, 33 Among those showing a decrease were—the acute intestinal diseases, 168, bronchitis, 60, cancer, 11 convulsions, 24, diphtheria, 59, heart diseases, 13, measles, 52, nervous diseases, 167, pneumonia, 150, typhoid fever, 29, scarlet fever, 48 smallpox, 6 sunstroke 20, and whooping cough, 9

INDIANA

Kokomo Hospital Gets Farm.—Mrs Anna Cage, Kokomo, who died recently, bequeathed a farm valued at several thousand dollars to the Kokomo Hospital Association

Smallpox.—Ten additional cases, with two deaths, are reported from Goshen The spread is charged to the negligence of physicians who diagnosed the disease as varicella

Fined for Illegal Practice—At the instance of the State Board of Medical Registration, Le Roy Rogers, Kewana, who held a license prior to the passage of the present law, but failed to have it renewed, was prosecuted, found guilty, and fined

Personal.—Dr John W Younge, Fort Wayne, has returned from the Holy Land ——Dr John N Hurty, Indianapolis, has been appointed a member of the committee of awards in the Medical and Hygienic Department of the Louisiana Purchase Exposition ——Dr Warren R. King, Greenfield, has been elected surgeon general of the Grand Army of the Republic ——Dr Andrew J Chittick Burlington, is seriously ill from septicemia

IOWA.

Waverly Hospital Dedicated—The new hospital presented to Waverly by Abraham Slimmer, was formally dedicated August 28

Culture Stations To Be Established—Culture stations for the investigation of contagious infections and transmissible diseases were expected to be ready for work September 1 The appropriation of $5,000 makes it possible at first to undertake only the diagnosis of diphtheria, typhoid fever, tuberculosis and rabies Examinations are made at the state university, free of charge

Must Furnish Statistics—The new law regulating the gathering of vital statistics which will be in effect as soon as the blanks are available, provides that all births and deaths shall be reported to the local health officers The law does not provide for payment for such reports, and there is a strong undercurrent of opposition among the profession, which thinks that the state should pay for work done

Faculty Changes—Dr Thomas J Maxwell, Keokuk, has resigned the chair of surgery in the Keokuk Medical College, College of Physicians and Surgeons, and Dr Charles E Ruth has been elected to fill the chair Dr John R. Maxwell succeeds Dr Ruth as professor of anatomy ——Drs Paul Shewkana, London, and Aufin Egdahl of Johns Hopkins, have been named as instructors in bacteriology and pathology in the University of Iowa

Medical Staff Assigned.—The following assignments of medical officers have been made For duty with Fifty fifth Infantry—Major J Fred Clarke, Fairfield, surgeon, Capt Wilbur S Conkling, Des Moines, and Capt Elliot R. King, Arion, assistant surgeons For duty with Fifty sixth Infantry—Major Donald Macrae Jr, Council Bluffs, surgeon, Lieut Pierre McDermid, Fontanelle, assistant surgeon For duty with Fifty third Infantry—Major Charles S Grant, Riverside, surgeon; Capt E L. Martindale, Clinton, and Lieut John C Hancock, Dubuque, assistant surgeons For duty with Fifty fourth Infantry—Major D S Fairchild, Jr Clinton, surgeon, Capt David A. Jay, Eldon and Lieut Albert B Deering Boone, assistant surgeons

KANSAS

Kills Assailant.—Dr E P Chace, Shawnee shot and killed John Cahill, who attacked him, after threats to kill

School Buildings Fumigated—The sanitary officer of Leavenworth has fumigated all the school buildings in the city in order that they may be in the best possible sanitary condition when school opens on September 9

Smallpox and Scarlet Fever—During the last quarter there were 299 cases of scarlet fever and 226 cases of smallpox in the state Saline County led in smallpox cases, with 35 cases, Labette and Cherokee counties having each 31 Barton County had 59 cases of scarlet fever, and Jefferson County 40 cases

New State Board—The governor, on August 29, announced the following appointments to the State Board of Health Dr G F Locke, Holton, reappointed, Dr Herbert M Bentley, Sterling vice Dr John M Minick, Wichita, deceased, Dr Charles Lowry, Topeka vice Dr Abraham S Gish, Abilene, Dr B J Alexander, Hiawatha reappointed and Dr Joseph B Carver, Fort Scott reappointed

MARYLAND

Faculty Meets—The semi annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Ocean City, September 9 and 10

Supplies Hospital Corps for Maneuvers—As the First Maryland Regiment has no hospital corps a detail will be sent to Manassas for it from the Fifth Maryland, under Capt S Griffith Davis, assistant surgeon of the latter regiment

New Building for Asylum—A new building will be added to the group at Spring Grove Asylum for the Insane, near Catonsville, the work on which will begin October 1 It will contain administration rooms, apartments for nurses and patients operating rooms and hydrotherapeutic plant A training school will be established for men and women nurses

Baltimore

Typhoid in August—There were 29 deaths from typhoid fever in August, and 207 new cases were reported, against 146 in August, 1903

Bequest to Hospital for Nurses—By the will of Mrs Anna M Gill of Paradise, Baltimore County $4,000 was devised to the trustees of the Johns Hopkins Hospital, to be used for the benefit of the nurses of that institution

Insane Removed.—On August 31 forty patients were removed from the insane department of Bayview Asylum—the city almshouse—to Springfield Asylum for the Insane Sykesville to relieve the congestion in the former institution

Crim Bequest Valid—The Crim bequest has been declared valid in the courts By the will of the wife of the late Dr William H Crim the University of Maryland School of Medicine was bequeathed about $40 000 to found a William H Crim professorship

Personal—Dr Delano S Fitzgerald is at Manhattan Beach, N Y——Dr Harry T Marshall has been elected pathologist at the Baltimore Medical College, vice Dr T Robert W Wilson resigned, to devote himself to private practice.——Dr Stewart Paton will spend the winter abroad——Dr Augustus G Pohlman has resigned his instructorship in anatomy at Johns Hopkins University to accept an appointment as assistant professor of anatomy in the University of Indiana, Bloomington

New House Staff—The following graduates of last June entered on their duties on the house staff of the Johns Hopkins Hospital August 31 John Herbert Carr, Josephine Hemenway, Julius A Caldwell, Jr, Jewett Villewy Reed, Ernest Sachs, Walter V Brem, Jr, Wilfred H Mainwaring, Herbert Ziegler Griffin, Orville Hickok Schell Harry S Greenbaum, Robert G Washburn, Herman W Marshall, Benjamin T Terry, Robert Bennett Bean, G Lane Taneyhill, Jr, William J Ricker, Charles M Remsen, Maurice Buford Bonta, De Witt B Casler, and James F Morrison

New Surgical Building Dedicated—The new surgical building at the Johns Hopkins Hospital will be dedicated October 5 The program will consist of addresses by several prominent American and foreign physicians, and a large number of eminent medical men, including those gathered at St Louis this month, will be invited to attend After dedication it will be inspected and a luncheon will be served In the afternoon a bronze tablet erected to the memory of Dr Jesse W Lazear, who lost his life from yellow fever in Cuba while investigating that disease there in 1900, will be dedicated in one of the amphitheaters The building cost about $150 000, is of brick, and four stories high Sanitation and ventilation are important features All the floors are of tiles, every room and hallway used by patients being also wainscoted with glazed white tiles The stairways are of marble and iron, and there are toilet rooms and baths on each floor A surgical amphitheater, 40 feet high, also has extensive tiling marble work, and a hall with wide lights composed entirely of wired glass There are a number of consultation rooms On the first floor will be emergency rooms for accident cases, minor operation rooms, and the orthopedic department Two large vaults of brick and cement are provided for surgical records

NEW JERSEY

Bequest to New York Academy—The late Dr Albert W Warden of Union Hill, West Hoboken, in his will, bequeathed $1,000 to the New York Academy of Medicine

Personal—Dr Theodore G Davis, Bridgeton, left, September 6, for California, where he will spend the winter——Dr William H Westcott, Berlin, was painfully injured by a collision with an automobile, September 2

Staff for Sister's Hospital—The hospital committee of the new Sister's Hospital, Elizabeth, has appointed the following staff Drs John P Reilly, Victor Mravlag, Stephen T Quinn Thomas E Dolan, and James S Green

Fighting Glanders—The State Board of Health and the Jersey City Board of Health are endeavoring to stop the importation into the state of glandered horses Last week five horses suffering from this disease were discovered in Hudson County

New Hospital for Orange—Buildings and grounds have been purchased for the establishment of a new hospital in Orange The hospital will be equipped as soon as possible, and will be opened about November 1 It will have about thirty beds besides a maternity ward and children's wards The institution is to be known as Mount Carmel Hospital and will be nonsectarian

NEW YORK

Buffalo

Parmenter Resigns—Dr John Parmenter has resigned the chair of anatomy and the secretaryship of the faculty of the medical department of the University of Buffalo, retaining, however, the professorship of clinical surgery Dr Herbert U Williams has been promoted from the associate to the governing faculty, and retains the title of professor of pathology and bacteriology Dr Herbert M Hill has been appointed secretary of the faculty

Personal—Dr Grover Wende has sailed on the *Deutschland* to attend the International Dermatological Congress in Berlin——Dr Frank W Hinckel has returned from Europe, where he went as delegate to the International Otological congress at Bordeaux——Dr W Scott Renner is soon expected home from his trip abroad——Dr Marshall Clinton has returned from the Adirondacks——Dr David Wheeler has gone to the Adirondacks——Dr Irving W Potter and Dr George A Himmelsback have returned from Europe——Dr Edward Clark, assistant health commissioner, is convalescing from his recent attack of multiple neuritis

New York City

Department of Health Needs More—The health department has sent to the board of estimate a request for $2,123,500 for its 1905 allowance, an increase of $577,656 52 over the 1904 allowance

Smallpox on Liner—On account of a case of smallpox on the *Campania*, she was detained over night at quarantine, the patient was transferred to the Kingston Avenue Hospital, Brooklyn, and 26 passengers were sent to Hoffman Island for observation

Personal—Dr L Duncan Bulkley sailed for Bremen August 30——Dr McGeary, ambulance surgeon at St Vincent's Hospital, had a narrow escape from serious injury while riding on the ambulance when it collided with a trolley car——In a collision between a trolley car and his carriage, Dr Martin W Auspitz fractured an arm and a leg, and his carriage was demolished

Contagious Diseases.—In the week ended August 27 there were reported to the sanitary bureau 371 cases of tuberculosis with 147 deaths, 244 cases of diphtheria, with 25 deaths, 140 cases of typhoid fever with 27 deaths, 70 cases of measles, with 4 deaths, 48 cases of scarlet fever, with 2 deaths, 3 cases of varicella and 17 deaths from cerebrospinal meningitis

Hospital Notes—William H Crawford bequeathed $10,000 to the New Amsterdam Eye and Ear Hospital——Efforts are being made to raise funds for the reopening of the pavilion for contagious eye diseases of the Eye and Ear Infirmary, which has been closed since March 1 ——The new Beth Israel Hospital is to be enlarged by the remodeling of a six story tenement house near by, to which it will be connected by bridges ——All the city hospitals are so crowded that the authorities view the approach of winter with much apprehension The public hospital accommodations of this city are totally inadequate

More Typhoid.—According to the recent canvass made among private physicians there are now more than two hundred cases of typhoid fever in the Bronx Such a large number is causing Bellevue and the allied hospitals great trouble because of the present crowded condition of these institutions Dr Gregory has ordered the erection of a temporary hospital on the grounds of the Fordam Hospital, which will provide for about a dozen typhoid patients The cases are scattered and due to local contaminations, and, therefore, the health department is not alarmed and does not fear a general epidemic

PENNSYLVANIA.

Good Results.—Oliver B Simmons in charge of the South Mountain Camp Sanatorium for the care of consumptives on the state forestry reservation at Mont Alto, reports that since the opening of the sanatorium in June, 1903, 65 patients have been received, and that of this number 50 per cent have returned to their homes apparently totally cured and 33 patients are still under observation in the sanatorium These statistics are practically in accord with those reported from the White Haven Sanatorium

Philadelphia.

Personal.—Dr and Mrs Peter N K Schwenk have returned from a trip in Europe

Bequest to Episcopal Hospital.—By the will of the late J Lower Welsh, the Hospital of the Protestant Episcopal Church receives $50,000

One Year's Work in the Municipal Hospital.—During 1903 3,399 patients were treated in the institution, and 3,204 were admitted, 2,464 were discharged, and 512 died The number remaining at the end of the year was 423 The general death rate for the entire hospital was 17 20 per 1,000

Maragliano Serum at Phipps Institute—A thorough test of the Maragliano serum in the prevention and cure of tuberculosis is to be given at the Phipps Institute Patients have been selected on whom the serum will be faithfully employed. In connection with the use of the serum, it is advised that the patients eat, as part of their food, meat from cattle rendered immune by the administration of the serum

Malaria-Breeding Mosquitoes at Navy Yard.—The malaria breeding mosquito has recently been discovered at League Island, and its presence has led the authorities to seek its breeding place and stamp it out During the past year the men at the island have been remarkably free from malaria, only two or three cases having occurred This is said to be due to the efforts of the authorities to exterminate the mosquito by the free use of kerosene on the stagnant pools which surround the yard. It is asserted that the dangerous species of mosquito is a new arrival, and that its breeding place lies in the marshes outside the navy yard grounds

Health Report.—Typhoid fever shows a steady increase since August 1, and only seven wards in the city are free from the disease During last week 104 new cases were reported, with 10 deaths as compared with 87 new cases and 8 deaths for the preceding seven days In all there were 178 cases of contagious disease, with 14 deaths During the preceding week there were 157 cases, with 12 deaths The general death rate is below normal, and the deaths from all causes numbered 371, a decrease of 51 from those of last week, and an increase of 17 over the corresponding period of last year

TENNESSEE

Will Build Hospital—Tennessee Medical College Knoxville, will erect a hospital to cost $25,000, and to accommodate 55 patients

Smallpox.—Russellville, Hamblen County, reports 7 cases ——Between Lyles and Bear Creek, Hickman County, there are from 50 to 75 cases, and compulsory vaccination has been ordered —Seven cases are reported from Jasper, Marion County ——A new case has developed in Spring Creek, Perry County, and the schools have been closed

Personal.—Dr William Litterer has been made professor of histology, pathology and bacteriology in the medical department of Vanderbilt University Nashville vice Dr Louis Leroy resigned ——Dr Reuben S Stanley, Memphis, was thrown from his buggy in a runaway accident August 24, sprained his wrist and sustained serious internal injuries

GENERAL

Society for the Study of Alcohol.—The American Medical Society for the Study of Alcohol and Other Narcotics was organized, June 8, 1904, by the union of the American Association for the Study of Inebriety and the American Medical Temperance Association The alcoholic problem and the diseases which spring from it are becoming more prominent and its medical hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel All physicians are asked to assist in making this society the medium and authority for the scientific study of the subject, and the secretary, Dr T D Crothers, Hartford Conn, will be pleased to give any further information

Testimonial to Dr Chapin.—It is proposed to give a dinner in November next, to Dr Chapin, superintendent and physician of the Pennsylvania Hospital for the Insane, who has just completed a half century's work in behalf of the insane He was appointed assistant physician at the State Lunatic Asylum, Utica, New York, in 1854 Afterward he became connected with the late Dr George Cook in the conduct of Brigham Hall Canandaigua, New York, and then, first as one of the building commissioners, and subsequently as physician and superintendent, with the Willard Asylum for the Chronic Insane, an institution made famous under his organization and work Since 1884 he has been the medical chief of the Pennsylvania Hospital for the Insane His friends have also arranged to have his portrait painted for presentation to him and to his family in honor of the event Contributions from his friends may be sent to Dr E N Brush, the Sheppard and Enoch Pratt Hospital, Towson, Md

FOREIGN

Relief Work at Harbin.—The receiving committee at Harbin had 7,901 sick and wounded arrive by train from the seat of war during the first month All but 437 were distributed in the hospitals of the Amur and neighboring regions, the rest being sent home to Russia

Red Cross Relief for Psychoses Among the Soldiers—As mentioned recently, page 680, the number of psychoses in the Russian active forces is very large, especially among the officers of the troops at the front The Russian Red Cross has established a central station for such patients at Harbin

Traffic in Sales of Medical Practice.—A certain Dr Lawson of England was sued for misrepresentation of the facts in the sale of a medical practice The courts condemned him to damages and costs The remarkable feature of the case was the discovery that this was the twenty ninth or thirtieth transaction for the sale of a medical practice in which he had engaged

Etiology of Malaria.—A few Greek writers are dubious in regard to the mosquito origin of malarial infection They claim that the disease is liable to appear for the first time during the months of the year when there are no mosquitoes They think that emanations from the soil, stagnant water, etc, are possible factors in its origin, Cardamatis asking "If the infection of man necessarily precedes that of the mosquito, whence did man derive his primary infection in the first place?"

Cholera in Russia.—Our Russian exchanges have been commenting on the threatening epidemic of cholera in Persia, and a large medical force was dispatched to the frontier to prevent the importation of the disease into Russia The latest advices by mail are that the epidemic is declining, and that only a single suspicious case was noted in Southern Russia The cable now brings word that several cases of cholera have been discovered in St Petersburg and that there is great alarm

Thermometer That Can Be Boiled—Bardy's clinical thermometer is made with a bulb above, which allows the mercury to expand without injury to the thermometer when it is boiled The mercury can be readily restored to its place by a simple maneuver Professor Raymond recently presented it with a high eulogy to the Paris Académie de Médecine, stating that its use puts an end to the fear of transmission of infection by means of the thermometer Kantorowicz of Berlin has invented a similar thermometer, mentioned on page 1112 of the last volume

Sale of a Medical Practice—The widow of a French physician sold her late husband's practice, office, books, instruments, etc, to another physician, who signed the contract in due *form* He afterward found another more promising chance and declined to fulfill the contract claiming that the sale of a medical practice is not legal The local court sustained him in this view, but the court of appeals awarded the widow the damages claimed, on the ground that the articles mentioned in the contract, the location, books, and agreement to introduce the newcomer, represented negotiable property on which a contract was binding

The School in the Woods for Sickly City Children —A new departure in school hygiene has been inaugurated at Charlottenburg, Germany A day school has been established in a pine forest outside the city limits and the children and teachers go there in the early morning and return home in the evening About 120 anemic and weakly children were selected from the various day schools and transferred to this new establishment Arrangements are made to feed the children and to give them medical oversight Only two and a half hours are devoted to school tasks, the rest of the time the children play in the woods or pavilion Dr Bernhard Bendix is the physician in charge of the institution, the official name of which is the Waldschule für kränkliche Kinder

The Approaching International Medical Congress. —The committee of organization of the Lisbon congress is issuing a bulletin from time to time which displays such businesslike methods and devotion to science that it augurs well for the success of the congress Nos 2 and 3 have been recently received They contain the list of the subjects of the official reports, with the names and addresses of the authors A list of subjects recommended as themes for further communications in each section are given The national committees and names of enrolled members are also published A colonial exposition is to be one of the features of the meeting as also the conclusions from a collective inquiry on pellagra The Americans have not sent in their names promptly, only one being found as yet on the list of official addresses—Dr W J Morton of New York, who will speak on the “Ultra Microscope” Among the “recommended subjects” in the section of medicine, we note Colibacillosis” “Dyspnea in Acute Febrile Diseases”, “Meningeal Hemorrhages”, “Paralysis in General, Etiology and Treatment,” and “Headaches” Twenty eight themes are recommended in the section of neurology and psychiatry and thirteen in obstetrics and gynecology Among the addresses in the latter will be one by Pinard on “Gravidal Autointoxications” Sixteen themes are suggested for the section of hygiene, among them being “Means to Combat Grippe,” Street Sprinkling,” and “Epidemiology of Cerebrospinal Meningitis” The list of participants already reads like a roster of the chief luminaries of European science The secretary asks that articles be forwarded to him before Sept 30, 1905, typewritten if possible, to facilitate prompt printing All correspondence should be addressed to Prof Miguel Bombarda, Hopital de Rilhafolles Lisbon See page 141

LONDON LETTER

Vital Statistics in 1902

The sixty fifth annual report of the registrar general dealing with the births, deaths and marriages in England and Wales in 1902 has just been published The estimated population in the middle of 1902 amounted to 32,997,626, of whom 15,952,154 were males and 17,045,742 females The marriage rate was 15 9 per 1,000 of the estimated population of all ages, which showed a slight increase, in the 3 year periods of 1880 1882, 1890 1892 and 1900 1902 it being 15 2, 15 5 and 15 9 respectively But as a large majority of the population are either already married or are below the age at which marriage takes place, the total population is not a satisfactory standard by which to measure the rate of marriage If it be calculated on the unmarried and widowed portion of the population above the age of 15, the apparent increase is turned into a decrease, for the rates for the same periods on this basis are 51 5, 49 8 and 48 7 The birth rate during the year was 28 5 per 1,000, which was identical with that of 1901, but was 1 1 per 1,000 below that of the decade 1892 1901 The death rate was only 16 2 the lowest on record since civil registration was established in 1837

Statistics of Infectious Diseases in London in 1903

The annual report of the Metropolitan Asylums Board, in whose hospitals most of the cases of fever occurring in London are treated, show in 1903 a death rate for scarlet fever of 3 1 per cent , for diphtheria, 9 6 per cent , for typhoid fever, 15 3 per cent , for typhus fever, 21 per cent , and for smallpox, 3 3 per cent The number of cases of infectious disease admissible to the board's hospitals and classified as such was, in 1901 35,311, in 1902, 40,046, in 1903, 23,087 For this falling off the abatement of the recent smallpox epidemic was largely responsible, the number of cases of the disease being, in 1901 1,700, in 1902, 7,796, in 1903, 416 Other diseases also show a considerable decline Thus, the number of cases of scarlet fever in the 3 years was 18,381, 18,252 and 12,531 respectively of diphtheria, 11,068, 10,538 and 7,582, of typhoid fever, 3,194 3,407 and 2,339 In typhus fever alone was there an increase to 22, the highest number since 1893 With regard to diphtheria an encouraging feature of more importance than the small number of cases is the continued decrease in the rate of mortality since the introduction of the antitoxin treatment Before this the mortality varied from between 30 and 40 per cent In 1895, the year in which the antitoxin treatment was introduced, it fell to 22 8 In 1903 it was only 9 69 per cent , though many cases are brought to the hospital too late for treatment The figures showing the day of the disease on which the treatment was first used are even more striking At the Brook Hospital, between 1897 and 1903, 187 cases were treated with antitoxin on the first day of the disease without a single death 1,186 on the second day, with 5 4 and 5 per cent deaths in the first 2 years of the series respectively, since which the rate has been about 4 per cent In cases treated after the second day the mortality is much higher, ranging up to and sometimes exceeding 20 per cent An adverse report is made on Finsen's treatment of smallpox by excluding all but red light He claims that suppuration of the vesicles and pitting are prevented, that suppurative fever is abolished, and that the mortality is lowered No such effects were observed in a small ward in which the treatment was carried out, and, moreover, the gloom was believed to have a deleterious influence on the general condition of the patients

Physical Degeneration

For some time the public has been gravely concerned by the alleged physical degeneration of the population, which is a standing topic of discussion both in the lay and medical press Like a good many other topics which furnish "copy" for the press, the subject has sprung into prominence simply because of the sensationalism aroused, and not because it rested on any real basis of fact The question became so burning that the government took it up and appointed a committee "to make a preliminary inquiry into the allegations concerning the deterioration of certain classes of the population as shown by the large percentage of rejections for physical reasons of recruits for the army and by other evidence, and to consider by what manner the medical profession can best be consulted on the subject with view to the appointment of a royal commission The committee has now issued a report They are unable to discover any trustworthy evidence of the general or extensive physical degeneration which has been supposed by some to exist They recommend that, 1, an anthropometric survey be made with a view to the collection of definite data bearing on the physical condition of the population, in the first instance periodic measurements of children in schools might be taken 2 That a register of sickness not confined to infectious diseases should be established 3 That an advisory council containing members appointed by the medical corporations be formed to receive the reports and advise the government Such a council might be modelled to some extent on *Le Comité Consultatif d'hygiène publique* in France 4 That the problem of overcrowding be drastically dealt with by fixing a standard beyond which crowding will not be allowed 5 The provision of labor colonies and public nurseries Further recommendations are made which involve almost every department of hygiene such as smoke pollution, medical inspection of factories, alcoholism, food and cookery, employment of women, milk supply feeding of infants exercises for children open spaces

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Correspondence.

Evidently

Charleston, Ill., Sept 3, 1904

To the Editor —I notice in The Journal for August 27 that Dr W W Keen, in a letter apropos of the educational exhibit at St Louis, has this to say "Next to Germany Japan has done the most What she is doing in war she is doing in medicine" Permit me to remark that, if Japan is doing in medicine what she is doing in war, she must, indeed be playing hades with her sick

Yours sincerely,

T H Shastid

A Loose Standard of Measurement.

TOLEDO OHIO, Sept 3, 1904

To the Editor —In THE JOURNAL for September 4 a writer says that a tumor was "about the size of the distal phalanx of an adult finger," and in the next paragraph he says a gland was "about the size of a marrowfat pea" I presume in the first instance that he refers to the finger as you see it and not to the bone, because in somewhat awkward English he seems to say that the tumor was 5 cm in length and 3½ cm in breadth It is quite likely that when boys the most of us helped to grow peas, but it is just as likely that the physician who now refers you to a marrowfat pea does so from boyhood memory, and for the last twenty years has not been able to tell one variety of pea from another 'Two feet—the length of the hammer handle—and so much' is an old time expression for the happy go lucky measurements as made by the journeyman carpenter, and "bean sized," "pea sized" "nut sized" "fingernail sized" skin eruptions, tumors, etc, convey about the same ideas of exactness It is quite as easy to think of fractional parts of an inch or of a centimeter as of the average size of adult fingers

J L TRACY

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish his name will be faithfully observed.

URINARY EXAMINATION IN LIFE INSURANCE WORK

DR. WILLIAM D BYRNE Chicago writes In the routine work of urinary analysis connected with examinations for life insurance it is customary to scrutinize the specific gravity and the reaction and to make the heat and nitric acid tests then if these show abnormalities a microscopic examination for casts follows Now in the early stages of interstitial nephritis do we not find heart and arterial changes as also alterations in the percentage of urea of greater value in determining a correct diagnosis? The text books do not elucidate this satisfactorily and I should like to hear from you if you can give the time to answering me

ANSWER.—Ordinarily the early stage of chronic interstitial nephritis is marked by an increase of the 24-hour amount of urine of which the urine of the night is notably greater than that of the day The specific gravity of the total 24 hour urine is relatively low the percentage and total urea is also less than normal The blood pressure is increased and may be noted by instruments but may not be perceptible to the fingers. In the early stage the cardiovascular changes which are so easily recognized later may not be perceptible Even in the early stage the microscope may enable one to detect hyaline and even finely granular casts and especially if a centrifuge be used to sediment the urine Therefore the important points in the recognition of chronic interstitial nephritis in the early stage are the increase of urine for 24 hours of which the night excretion exceeds that of the day relatively low specific gravity relative and total decrease of urea increase of blood pressure the presence of hyaline and often of granular casts and the presence often in the urine of a trace of albumin

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SAN FRANCISCO Aug 29 1904

To the Editor —Will you kindly inform me what states have no medical law

R F T

ANSWER.—None of the states and territories in the Union is without a medical law at the present time except Alaska

Book Notices.

PHYSIOLOGY AND PATHOLOGY OF THE URINE with Methods for Its Examination By J Dixon Mann M D F R.C P Physician to the Salford Royal Hospital With Illustrations Cloth Pp 272 Price, $3 00 London Charles Griffith & Co Ltd Philadelphia J B Lippincott Co 1904

Dr Mann takes up the subject of the physiologic and pathologic constituents of the urine and the usual chemical and microscopic tests, with a brief consideration of certain diseases in which the urine plays an important part. The subject is well handled, but the author does not depart materially from the methods of writers on this subject who have preceded him

CLEFT PALATE AND HARELIP The Earlier Operation on the Palate. By Edmund Owen, M B F R.C S Surgeon in Chief to the French Hospital Cloth Pp 111 Price $1 00 net Chicago W T Keener & Co 1904

This little monograph is devoted almost entirely to a description of the operative treatment of cleft palate after the method of Dr Truman W Brophy of Chicago Mr Owen is convinced, after practical experience, that this method marks a great advance in the surgery of the defect

INFECTIOUS DISEASES Their Etiology Diagnosis and Treatment By G H Roger Professor Extraordinary in the Faculty of Medicine of Paris, etc Translated by M S Gabriel M D New York With 43 Illustrations Pp 864 Cloth Price $5 75 net. Philadelphia and New York Lea Brothers & Co 1903

One can not peruse this work without recognizing at once that it has been written by a master mind The subject has been comprehensively covered in all its phases, historical, theoretical and practical, experimental and clinical The work of the laboratory is weighed and measured by the facts as presented at the bedside, the results of the one thus controlling and supplementing those of the other in a manner which could only be done by one not only perfectly familiar with laboratory and experimental methods, but also having at his command unlimited clinical facilities The work is an excellent one and of great value, not only to the general practitioner, but also to the surgeon and specialist, for there is no branch of medicine which does not have to reckon with this class of diseases

Marriages.

JUDSON A HULSE M D to Miss Hilda Inman, both of Akron Ohio

GEORGE L BOND, M D, Alto, Mich to Miss Georgianna Baker of Ridgeway, Mich

JOSEPH H DOYLE, M D, to Miss Lena Jansen, both of Little Chute, Wis, August 17

ROBERT WIENER, M D, to Miss Lillie Polowe, both of New York City, September 4

JOHN C COCHRAN, M.D, Big Run, Pa. to Miss Ruth Deri of Lancaster, Pa, July 20

DANIEL HOPKINSON, M.D, to Miss Manette Meinecke, both of Milwaukee, August 24

C T JONES, M.D, Stafford, Kan, to Miss Anna Harrison of Wichita, Kan, August 15

R. M BOLMAN, M D, Fort Wayne, Ind, to Miss Catherine Geiger of Bloomville, Ohio

ALBERT C MCCLANAHAN, M D, Chicago, to Miss Locky Fox of Portland, Ore, August 24

JAMES W GAGE, M D, Garrett, Ind, to Miss Mary Kruenpelbeck of Cincinnati, August 30

JAMES GORMLY, M D, Meadowlands, Pa, to Miss Elsie V Read of Vineland, N J, August 24

W E SHALLENBERGER, M D, Canton, Ill to Miss Kathryn Elsenfast, at Peoria, Ill, August 17

J M LANNING, M.D, Corinth, Miss, to Mrs Lydia B Van Anda of Manchester, Iowa, August 27

CHARLES P DOYLE, M D, Frankfort, Mich, to Miss Clara Kenney of Manistee, Mich, August 17

LEVI F DUCKETT, M D, Cloverdale, Ala, to Mrs Elizabeth Ashcraft Jones of Florence, Ala, August 11

JAMES A WRIGHT, M.D, to Miss Nellie Thompson, both of Fair Haven, Ill, at Clinton, Iowa, August 24

JOHN C SUNDBERG, M.D, Santa Cruz, Cal, to Miss Hermance Idalie Bundesen of San Francisco, August 18

WALTER CLARENCE BLEY, M.D, Beardstown, Ill, to Miss Pearl McDonald Barclay of Virginia, Ill, August 27

FREDERICK BARRETT, M.D, Eveleth, Minn, to Miss Edith Susan Smith of Beaver Dam, Wis, August 25

HENRI HARCOURT SUTCLIFFE, M D, to Miss Marion Elizabeth Thompson, both of San Francisco, Cal, August 20

WILLIAM HUBERT AARON, M D, Pawhuska, Okla, to Miss May Roxy Todd of Gray Horse, Okla, August 11

EDWARD MATTHIAS ZEH HAWKES, M D, Newark, N J, to Miss Mary Everett of Minneapolis, Minn, August 29

CHARLES PARKS, M.D, Atwood, W Va, to Miss Mona Langfitt of Morgansville, W Va, at Parkersburg W Va., August 24

HENRY SHACKELFORD KELLER, M D South McAlester I T, to Miss Helen Houston Beach of Louisville Ky, at South McAlester August 13

Deaths.

John Forney Zacharias, M D Jefferson Medical College, Philadelphia 1860, dropped dead in his drug store at Cumberland, Md, August 16, aged 63 He served as assistant surgeon in the Confederate Army from 1862 to 1865, and settled at Cumberland in 1871 During the war he employed maggots in the treatment of hospital gangrene to remove decayed tissue, and claimed that hereby he saved many lives escaped septicemia, and had rapid recoveries"

Henry Marshall Fenno, M D Harvard University Medical School, Boston, 1876, a member of the American Medical Association, New York State Medical Association, Monroe County Medical Society and Rochester Pathological Society city physician of Rochester, N Y from 1879 to 1881 died at his home in Rochester August 17 from malignant disease for which he underwent operation a year ago aged 53

Joseph Wiener, M D College of Physicians and Surgeons in the City of New York, 1874, a member of the Academy of Medicine, the German Medical Society, and the Physicians' Mutual Aid Association, for many years associate to the chair of military surgery in that institution, died at his home in New York City, August 11 from heart disease after a prolonged illness, aged 76

David C Murphy, M D College of Physicians and Surgeons Keokuk, Iowa, 1874, a member of the Kansas Medical Society died at his home in Edwardsville, Kan, August 22, aged 57 The Wyandotte County Medical Society, at a special meeting August 23, adopted resolutions regarding the death of Dr Murphy

Benjamin D Watkins, M D Tulane University of Louisiana, New Orleans, 1887, surgeon of the Y & M V and N O & N W railways, and once president of the State Board of Health, who was thrown from his buggy and injured, died at his home in Natchez Miss, as a result of the injuries, August 12

William J Lodge, M D University of Maryland School of Medicine, Baltimore, 1859, some time surgeon U S Navy but since his retirement from practice on account of ill health noted for his genealogic researches, died at his home in Baltimore, August 21, from Bright's disease, aged 72

James M Poyntz, M D University of Louisville, 1873, of Richmond Ky, county referee of Madison County, surgeon in the Confederate service during the Civil War, died at Mount Sterling, Ky, August 16, from consumption after an illness of three years, aged 67

Oscar Wiley, M D Medical Department of Randolph Macon College Prince Edward Court House, Va 1851, surgeon of the Fifty fourth Virginia Infantry, C S A, during the Civil War died at his home in Salem, Va, August 25 from angina pectoris, aged 73

Henry Tuck, M D Harvard University Medical School, Boston, 1867, of New York City, vice president and medical director of the New York Life Insurance Company, died, after a long illness, at his summer home in Seabright, N J September 2, aged 62

Henry J Warmuth, M D Rush Medical College, Chicago, 1868, of Smyrna, Tenn, died in Philadelphia from disease of the stomach, August 12 after an illness of two years, aged 70 He served as surgeon in the Confederate army during the Civil War

Isaac N Dalbey, M D Medical Department of Wooster University, Cleveland, 1868, who gave up practice ten years later to enter the pulpit, died at his home in Rochester, N Y, August 15, from malignant disease, after a prolonged illness, aged 58

James Herbert Hogue, M D College of Physicians and Surgeons of Baltimore, 1885 a member of the American Medical Association, the head of the Gynecean Hospital, Altoona, died at his home in that city August 30, from paralysis, aged 44

Charles Frederick Herman Willgohs, M D Rostock University, a veteran of the war of Polish Independence, died from pneumonia at the home of his daughter in Akron, Ohio, August 26, after a short illness, aged 100 years and 9 months

Charles L P Smith, M D Yale University Medical Department New Haven Conn, 1898 died at his home in Cornwall Bridge, Conn, August 18, from injuries received in being struck by a railway train three days before, aged 28

William D Spore, M D McDowell Medical College, St Louis 1861, of St Louis, died at the Mullanphy Hospital in that city, August 10, from kidney disease of long standing, for which an operation was performed, aged 63

Orlanda Chester Robinson, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, died at his home in Huntingdon Valley, Pa, August 4, from consumption after a lingering illness, aged 42

John S Hileman, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1889, died at his home in Pittston, Pa, August 6, three days after an operation for appendicitis, aged 40

Henry C Barnard, M D Medical Department of the University of Iowa at Keokuk, 1866, surgeon during the Civil War died at his home in Charleston, Ill, August 10, after a prolonged illness, aged 68

William O Griggs, M D University of Maryland School of Medicine Baltimore, 1893, of New York City, died at the home of his sister in Baltimore, August 26 from consumption aged 35

F Le Baron Monroe, M D Harvard University Medical School Boston, 1860 surgeon U S Army retired, of Meriden, N H died suddenly in Woburn, Mass, from apoplexy, August 14 aged 69

Claude R Wellington, M D Medical School of Maine at Bowdoin College, Brunswick, 1898 died at his home in Mansfield Mass August 18, from the effects of an overdose of chloral aged 34

Siva Carman, M D New York University, New York City 1881, of Seattle, Wash died at the Stellacoom Asylum, to which he had been committed in 1901, August 12, aged about 50

William E Boteler, M D University of Maryland School of Medicine Baltimore died suddenly at his home in Middletown Md, from fatty degeneration of the heart, August 14, aged 83

Myron D Blaine, M D Detroit Medical College, 1883, of Auburn, N Y, died at the Clifton Springs Sanitarium, Dansville, N Y, from rheumatism, after a long illness, aged 45

Edward A. H Purdon, M D Chattanooga (Tenn) Medical College, 1891, of Corinne, Utah died at the Ogden General Hospital, August 3, after an operation for abscess of the liver

Eldridge G Simons, M D Bellevue Hospital Medical College New York City, 1875, of Ripley, N Y, was struck by a train in Cleveland, Ohio, September 1, and instantly killed.

Arthur J Tessier, M D Baltimore (Md) Medical College 1901, died at his home in Somersworth, N H, August 19, from typhoid fever, after an illness of one week, aged 25

William M Tobey, M D, for 30 years a practitioner of New London, Conn, died at his home in that city, August 14, from paralysis after an invalidism of 12 years, aged 83

J Lewis Woodville, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1844, died at his home near Sweet Springs, W Va, August 14, aged 87

Charles T Quinn, M D Southern Medical College, Atlanta Ga, 1887, died at his home in Naylor, Ga, August 27, from typhoid fever, after an illness of ten days, aged 43

Hugh C McCord, M D College of Physicians and Surgeons in the city of New York, 1883, of New Haven, Conn, died at the New Haven Hospital, August 27, from apoplexy

Samuel H Guilbert, M D Ohio, 1857, of Dubuque, Iowa, died August 28, in Roosevelt Hospital, New York City, where he underwent operation, two weeks before, aged 69

John W Tiffany, M D Iowa, 1883, of Hiawatha, Kan, died at the home of his son in Cedar Rapids, Iowa, August 25, from disease of the liver, after a long illness, aged 62

William Ussery, M D University of Nashville, Tenn, 1894 died at his home near Lonevak, Montgomery County, Tenn August 29, after an illness of six weeks, aged 32

David McClean Crawford, M D New York University, New York City, 1851, state senator in 1870 and 1876, died at his home in Mifflintown, Pa, August 25, aged 78

Millard Fillmore Cyphers, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1887, died at his home in Philadelphia, August 29, aged 45

John Hector Mackay, M D College of Physicians and Surgeons in the City of New York, 1868, died at his home in Truro, N S, August 3, from acute nephritis

Daniel H Cole, M.D University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, died at his home in Memphis, Mich, August 10, aged 81

George Henry Fales, M D Harvard University Medical School, Boston, 1868, died at his home in East Boston, Mass, August 8, from cerebral hemorrhage, aged 62

Charles B Weida, M.D Jefferson Medical College, Philadelphia, 1887, died at his home in Braddock, Pa, August 29, from morphin poisoning, aged 37

John P James, M.D University of Nashville (Tenn) Medical Department, 1861, died at his home near Gibson, Tenn, August 14, after a long illness, aged 73

George Henry Dayton, M D New York University, New York City, 1846, died recently, and was buried at his old home in Lima, Ind., August 14, aged 80

Gideon D Harris, M D Tulane University of Louisiana, New Orleans, 1899, of Indianola, Miss, committed suicide, August 30, by severing the femoral artery

Anderson G Cross, M.D Jefferson Medical College, Philadelphia, 1857, died at his home in Waynesburg Pa, August 23, after a long illness, aged 83

William Thompson, M D University of Edinburgh, Scotland, 1855, of Pittsburg, Pa, died in Weehawken, N J, August 21, after a short illness, aged 75

Russell C Barrett, M D Toledo (Ohio) Medical College, 1886, died at his home in Toledo recently, and was buried at Wauseon Ohio, August 26, aged 70

Jacob S Whitman, M.D Jefferson Medical College, Philadelphia, died at his home in Lyndon, Kan, August 12, after an illness of several months

Carl Bergk, M D University of Gottingen, Germany, 1867, died at his home in Bloomingdale, Fort Wayne, Ind, August 27, from diabetes, aged 60

Robert J Jackson, M.D Missouri Medical College, St Louis 1870, died at his home in Bloomfield, Mo, August 29, after an illness of six months

George S Balsbaugh, M.D Jefferson Medical College, Philadelphia, 1861, died at his home in Forreston, Ill, August 26, after a long illness, aged 75

J F Shackleford, M.D Medical College of Georgia, Augusta, 1850, died at his home in Trenton, Tenn, September 1, from chronic bronchitis, aged 77

James D Kratzer, M.D College of Physicians and Surgeons Keokuk, Iowa, 1886, died at his home in Lancaster, Mo, August 16, aged 49

George T De Verter, M D Miami Medical College, Cincinnati, 1872, died from paralysis at his home in Waterman, Ind, August 11, aged 65

Lewis Melton, M D College of Physicians and Surgeons Keokuk, Iowa, 1876, died at his home in Wheatland, Cal August 8, aged 68

Tilghman Seems, M D College of Physicians and Surgeons, Keokuk, Iowa, 1872, of Mitchellville, Iowa, died in Jamesboro Ont, August 11

John D Karr, M.D College of Physicians and Surgeons, Keokuk, Iowa, 1892, died at his home in Alva, Okla, August 9, from apoplexy

Josiah H Helmer, M.D Albany (N Y) Medical College, 1847 of Lockport N Y, died suddenly at Theresa, N Y, August 19 aged 83

George W Thompson, M.D Ohio, 1878, died at his home in Union City, Ind, August 13, after an illness of five years, aged 73

George R. Harris, M.D Atlanta (Ga) College of Physicians and Surgeons, 1901, died at his home in Rayne, La, July 30, aged 28

James C Smith, M D Vanderbilt University Nashville, Tenn, 1885, of Birmingham Ala died in Memphis, Tenn, August 23, aged 37

Walter P Ellis, M D University of Louisville, 1881, died at his home in Livermore, Ky, August 13, from paralysis, aged 49

John H. Lueke, M D University of Munich, Germany, 1867 of Cleveland, Ohio, died recently in Bremen, Germany, aged 65

W B J Hardman, M.D Jefferson Medical College, Philadelphia, died at his home in Commerce, Ga, August 21, aged 82

John Walker Gill, M D New York, 1887, died at his home in Flushing, N Y August 22, from Bright's disease, aged 61

J J Hunt, M.D Royal College of Physicians, Dublin, Ireland 1868, died at the county farm, Burlington, Iowa, August 30, aged 56

James Dodd, M.D Medical College of Ohio, Cincinnati, 1859, died at his home in Bloomington, Ind, August 21, aged 72

T Charles Bower, M.D Pennsylvania, died at his home in Superior, Mont, from pneumonia, July 6, aged about 45

Albert B Harris, M D Jefferson Medical College, Philadelphia 1888, died at his home in Wilmington, Del, August 18

William S Fraleigh, M D McGill University, Montreal, 1869, died at his home in Toronto, Ont, August 19, aged 58

William E Parker, M.D University of Vermont, Burlington 1883, died suddenly at his home in Boston, August 16

William Davis, M D, died at his home in Ripley, W Va August 18, from disease of the bladder, aged 78

Josiah S Devore, M D Ohio, 1882 died at Dunsmuir Cal August 4, after an illness of one month

Esther Woodman Taylor, M.D Illinois, 1872, of Boston died recently at Wells, Maine, aged about 70

Joseph A Crabtree, M D Ohio, 1875, died at his home in Akersville, Ky, July 28, aged 61

Sim Hopkins, M D, 1852, died at his home in Leona Texas, August 25, aged 76

T N Horner, M D, died at his home in Whitesburg Tenn July 18, aged 84

Deaths Abroad.

Karl Weigert, M D, professor of pathologic anatomy since 1884, and director of the Pathologic Institute at Frankfurt a M, died there from a stroke of apoplexy, August 5, aged 59 He is known the world around for his pioneer research in bacteriology and pathologic anatomy His research on the anatomy of smallpox and on the relations between the anilin dyes and the animal tissues laid the foundations, thirty years ago, for much of our present knowledge of pathologic anatomy and bacteriology His neuroglia staining is considered his greatest triumph, opening the way for study of the structure of the brain from new standpoints Among his other fruitful works are those on tuberculosis of the veins, staining of bacteria, proliferation of cells under external stimuli, 'coagulation necrosis,' encapsulation of tuberculous foci, etc He has trained a number of pupils who do him honor, among them Prof Paul Ehrlich Weigert died without having been distinguished by the authorities in any way commensurate to his services to science

Anton Drasche, M D, professor of epidemiology at Vienna, member of the Austrian sanitary council, and privy councilor, died at Vienna, August 28, aged 78 He was celebrated for his investigations on cholera and other epidemic diseases and their prophylaxis, and was one of the founders and editors of the *Bibl der gesamt med Wiss*

Erich Bennecke, M.D, professor of surgery and director of the surgical policlinic at Berlin, died there, August 1, aged 39 He succumbed to septic infection from a scratch during an operation His death followed close on the retirement of the chief of the policlinic, Professor König

Association News

New Members.

List of new members for the month of August, 1904

ALABAMA

Love Wm J Opelika

ARKANSAS

Ogilvie R K. Paragould.
Lynn J R Hazen
Smith. W F Hartford
Thornton Edwin W Piggott

CALIFORNIA.

Buckley Emma San Francisco
Nagel G San Francisco
Dresel C San Francisco
Holden E. M San Francisco
Wood J L Oakland.
Lay G H Forest Hill
McNair Wm R Glendora

COLORADO

Elder C S Denver
Hughes J G Greeley
Eldridge F F Grand Junction

CONNECTICUT

Hertzberg G R Stamford

DISTRICT OF COLUMBIA

Beall C M Washington
Carrico A J Washington

GEORGIA

Sanchez S E Barwick
Earle C F Elberton

ILLINOIS

Van Dyke G H Chicago
Hamilton Alice Chicago
Reynolds G W Chicago
Butler J H Hartsburg
Hilgard G E Belleville
Roberts Wm R Cissna Park
Matheny Ralph C Galesburg
Reasoner M A Morrisonville
Joesting F C Alton

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer]

Cerebrospinal Meningitis

Koplik, in the *Med News*, June 4, 1904, concluded that the disease, very like pneumonia, is a self limited one, and all we can do is to relieve the sufferings of the patient and treat the complications

GENERAL TREATMENT

Fischer, in the *Med Record*, gives the following general outline of treatment of this condition

Dietetic—To sustain life the child must be fed When there is gastric irritability peptonized milk or peptonized yolk of an egg should be given per rectum Gavage may be resorted to and light nutritious foods, such as whey, white of egg, soups and broths should be given at regular three or four hour intervals

Fever —The temperature of the room should be kept at from 65 to 70 F If the fever is high, shave the head and apply an ice bag to the head and at the nape of the neck A mustard footbath will relieve the cerebral symptoms in some cases Tub baths of tepid water may be tried or the cold pack or ice coil

Medication —For the restlessness the author recommends the hypodermic administration of morphin sulphate, gr 1/30 (2 mg) repeated three times a day or oftener if required In some cases five or ten drops of the spirits of chloroform given with the food every three to four hours is beneficial A ten grain dose of the bromid of sodium may be given every three to four hours until the cerebral symptoms are modified Hyoscyamin tablets of 1/100 of a grain are useful when active delirium is present Suppositories containing the following may be given

℞ Chloralamid gr x | 65
Ext belladonnæ gr ⅛ | 008

M Ft suppos No i Sig Use to promote quiet or sleep

If stimulants are required he recommends the tincture of musk or the hypodermic injections of camphorated oil, or black coffee Of other medication he says The inunction of silver ointment along the spine at least fifteen minutes at a time, can be tried and repeated several times a day Large doses of iodid of potassium or sodium iodid 15 to 60 gr (1 to 4 gms) or even more daily may be tried Mercurial ointment rubbed into the scalp and nape of the neck was used in one case that recovered

LUMBAR PUNCTURE

Koplik, in the article quoted from above, discusses this subject and his observations from his own experience justify the following conclusions

1 It is not curative and can not prevent relapses

2 The temperature is not a guide as to the efficacy of the procedure of lumbar puncture

3 It certainly relieves symptoms of pressure, therefore, if the irritability is great and headache is severe, as may be judged, even in children by the rational symptoms, lumbar puncture is indicated

4 It is also indicated if rigors are present, the withdrawal of the purulent fluid will give the same relief as when withdrawn from any other cavity

5 In cases of rigidity, even opisthotonos (basal meningitis) the lumbar puncture often fails

6 The procedures of injecting chemicals or antiseptic fluids have not lessened the mortality

7 It aids in the prognosis, if the fluid is thick and purulent, and flows slowly from the canula, the prognosis is grave. Encouraging are the cases in which the fluid is cloudy or shows a straw color

8 It is probable that the lumbar puncture aids materially in preventing certain complications, such as hydrocephalus, which is a very serious consequence

Method—The method used is that advocated by Quincke The author has never had an accident of any consequence If he is unsuccessful and obtains what is known as the dry tap, he repeats the puncture in another place, but has not gone further than this In cases in which hemorrhage occurred no ill effects followed Quincke believes that the hemorrhage is due to the puncture of a vein in the subdural space

Number of Punctures—There is no set rule If the temperature remains low, and the irritability and headache are not marked, it is well to wait If there is a subsequent rise of temperature another puncture may be made, but not oftener than at an interval of four or five days

Quantity of Fluid Withdrawn—This varies, in some cases the fluid flows very rapidly from the canula, is clear or very slightly turbid, and in a short space of time 60 to 70 cubic centimeters are withdrawn before there is a relief of tension which is judged chiefly by the rapidity with which the fluid flows from the canula If the fluid drops slowly he rarely draws more than 30 c c

Summer Diarrheas of Children

Lowenburg, in the *Therapeutic Gazette*, gives the following general outline of treatment for all forms of diarrheas

PROPHYLAXIS

Remove or mitigate the etiologic factors Of these the summer heat and improper feeding are the most important Heat favors fermentative changes in milk, which in turn is an active cause in the production of intestinal disturbances in children The child of the rich can be placed in proper hygienic surroundings either in the city or taken to the country or sea shore The children of the slums require our attention and services most These children should be kept constantly in the open air, preferably in the parks, should sleep in cool, well ventilated apartments, and the beds should be covered with mosquito netting Cool bathing should be indulged in regularly Care must be taken regarding the dress Do not overclothe the child Soft, unstarched materials should be used and the dress loosely and lightly adjusted, light woolen garments being worn next to the skin only The author discusses at length the importance of the care and preparation of the food, believing with all authorities that proper feeding requires the best attention First in importance, the physician should insist on maternal nursing If this is impossible, a healthy wet nurse should be obtained Weaning should take place in the fall or winter if possible Absolute cleanliness should obtain in the care of the nursing bottle, nipples and all utensils with which the milk comes in contact before being taken by the infant The nipples should be turned inside out and scrubbed, then washed in sterile water, and kept in a boric solution until ready for use The bottles should be cleansed and boiled The milk should be secured from a reliable dairy, the sanitary condition of which is known to be good. The author believes that the milk should be sterilized and afterward kept on ice until used (In this particular other authorities disagree and believe that the best plan to pursue is to obtain a milk which is known to be procured under the most cleanly conditions, so that the milk shall not become contaminated from the time it is taken from the udder of the cow until it is consumed by the infant The method of producing milk under the most recent hygienic conditions has been so perfected by some dairies that the obtaining of pure milk has become practicable The author further deprecates the use of any so called milk preservative

The milk should be modified after some one of the methods given, remembering that each case is a law unto itself and the milk must be so adjusted to meet the nutritional needs of the child and its state of health and not be governed entirely by its age

DIETETICS

The beginning of an attack of summer complaint is to be met by the withdrawal of all food, be the child breast or bottle fed. The patient is to be starved for from twenty-four to forty-eight hours. This is one of the best means of controlling vomiting and of preventing further fermentative changes in the bowel. Small quantities of sterile water may be allowed at short, fixed periods. After the starvation period, small amounts of cereal water may be allowed, as barley or rice water. Albumin water, if it agrees, is very useful, and when beef juice is added it will furnish nourishment for many days. It is also a good vehicle for the administration of brandy when a stimulant is indicated.

After the vomiting has ceased and the intestinal canal has been cleansed a gradual return to milk is made, and this must be done with the greatest caution. Better go too slow than too fast. Begin with a very weak milk mixture with the proteids, ½ per cent., peptonize and feed in small quantities and at short intervals. Very gradually increasing the quantity, lengthening the interval and omitting the peptonization, and as the digestive organs become stronger the per cent. of the proteids may be increased until the milk equals the strength of the mother's milk.

Many times it is advisable to omit the casein from the cow's milk because of the difficulty of its digestion in the human stomach, and feed the infant with whey instead, which contains the soluble albuminous portions of bovine milk—lactalbumin and lactoglobulin. The author also recommends the use of dextrinized gruel added to the milk when the whey is not used. This substance so changes the casein of the cow's milk as to make it coagulate in finer curds.

METHOD OF PREPARATION OF DEXTRINIZED GRUEL

The following is the method as advocated by Chapin: One tablespoonful of wheat flour plus one pint and a half of water, boiling the mixture for fifteen minutes. This is followed, after cooling, by the addition of a dram of a solution of diastase, which renders the gruel thin. Water should be administered in small amounts throughout the course of the disease, to allay thirst, reduce fever, diminish toxemia, and supply the tissues with fluid.

MECHANICAL TREATMENT

Lavage has but one indication in cases of summer diarrhea, viz., uncontrollable vomiting. One washing is usually sufficient. Colonic flushing is indicated in the following conditions: Where there is evidence that undigested food or putrescible material exists in the intestinal canal, a copious colonic irrigation of normal salt solution, combined with a calomel purge and correction of the diet will give quick relief. In ulcerative colitis, when the stools are mixed with blood, an irrigation with a 1 to 8,000 silver nitrate solution serves a useful purpose. High fever is best controlled by cold irrigations of the colon. Colonic flushing will relieve and prevent intestinal putrefaction, allay thirst, cleanse the bowel and prepare it for the absorption of medicines and nutrient enemas. Hypodermoclysis is especially useful in cases of cholera infantum during the stage of collapse following excessive purgation. Its greatest sphere is in those apparently hopeless cases made so by urinary suppression and threatened cardiac and respiratory failure.

MEDICINAL TREATMENT

In cases of acute intestinal indigestion and the fermentative type of diarrhea the symptoms are speedily controlled by emptying the intestinal canal by the use of castor oil in dram doses if there is no vomiting; it removes the offending material and has a secondary constipating effect. In diarrhea, associated with vomiting, the author recommends the following:

R.	Hydrarg. chlor. mitis	gr. i		06
	Sodii phosphatis	gr. xxx	2	
	Pulv. ipecac.	gr. ss		03
	Sacchari lactis	gr. xx	1	30

M. Ft. chart. No. x. Sig.: One every half hour.

The so-called intestinal antiseptics are inefficient because of the necessarily small doses. Salol may be given in from 3 to 5 grain doses, zinc sulphocarbolate in doses of from 1/6 to 1/2 grain.

It is useful to administer dilute hydrochloric acid in doses of from 5 to 10 minims in cases associated with high fever.

Of the astringents morphin is best given hypodermically, gr. 1/800, combined with atropin, gr. 1/300, to a child under 2 years of age; morphin must be given cautiously, and only when the intestinal canal is clean.

Bismuth, in the form of the salicylate or the subgallate should be given in large doses, gr. v to xv. The salicylate is best given in the fermental type and the subgallate and subnitrate in the inflammatory forms associated with blood, mucus and tenesmus.

Fever is controlled by hydrotherapy. Indications for stimulation are met by the use of brandy, strychnin and digitalis, and must be used in full doses. Atropin in doses of 1/250 grain has a remarkable effect in cases associated with watery stools, pinched features, a high internal temperature and a cold, clammy surface.

Of the serum treatment it must be said that up to date it is disappointing and too much in the experimental stage to be of practical benefit.

Medicolegal.

Peculiarities and Requirements of Dying Declarations.—The Supreme Court of Kansas says, in State vs. Knoll, that a dying declaration is hearsay evidence, and is taken out of the rule excluding such evidence, because of reasons of necessity, and because it is supposed that a realization on the part of the declarant of the certain and speedy approach of death affords as powerful incentive to tell the truth as does the administration of an oath. In order to render such declarations admissible, it must be first shown that the declarant was not only in articulo mortis (at the point of death), but under the sense of impending death, without hope of recovery, at the time such declarations were made. But the statements made in this case by the declarant that he had to die of the whipping he had received from the defendant, and that any hour, any day, he might die, the court does not consider sufficiently showed his sense of impending death to render his statements competent as dying declarations. At the same time it says that it is quite true that, where the sense of impending death, without expectation or hope of recovery, exists at the time of making of the statement, such statement is not rendered inadmissible by a subsequently entertained belief or hope on the part of the deceased that he may recover.

Liability for Criminal Act of Person with Delusions.—The Supreme Court of Alabama says, in the homicide case of Porter vs. State, that the mind may, in a sense, be said to be unsound where its possessor is suffering from delusions, hallucinations, and illusions, and yet he may be held responsible for a criminal act, where the intent is an essential ingredient of the offense, if these things are not the products of a diseased brain. In this case, it was open for the jury to find, under the evidence, that the species of insanity or mental unsoundness, if it existed at all, with which the defendant (Porter) was afflicted, was a temporary aberration which sometimes accompanies or follows intoxication, and is often accompanied by delusions, hallucinations, and illusions. This is not such insanity as confers legal irresponsibility. Insanity, to relieve from criminal responsibility, must be caused by or result from disease or lesion of the brain. Furthermore, if the defendant was afflicted with a disease of the brain which rendered him insane, he may have known it was wrong to take the life of the deceased, and, under the evidence, it was open to the jury to so find. If he had this knowledge, in order to relieve him of criminal responsibility, two conditions must concur: (1) If by reason of the duress of such mental disease, he had so far lost the power to choose between the right and wrong, and to avoid doing the act in question, as that his free agency was at the time destroyed, (2) and if, at the same time, the alleged crime was so connected with such mental disease, in the relation of cause and effect, as to have been the product of it solely

Liability for Giving Illegal Prescription for Liquor.—The Court of Criminal Appeals of Texas takes a somewhat new stand on this subject in the appeal of Williams vs. State. It says that the facts showed that the physician gave an illegal prescription, on which the sale charged was made. He was not interested in the saloon, and did nothing more in furtherance of the sale than the mere giving of the prescription which procured it. The state's insistence was that he was guilty of a sale by virtue of having given an illegal prescription. Under some expressions in Stephens' Case (Tex. Cr. App.) 73 S. W. Rep. 1056, and McLain's Case, 43 Tex. Cr. R. 213, 64 S. W. 865, this was a proper way of prosecuting him. But the real point in the Stephens Case was that there must be a sale, before the physician would be guilty for giving the illegal prescription. However, on a more mature consideration of the Stephens and McLain cases, and in view of the variant views on the question of indictment, the court has reviewed the authorities, and now holds that the indictment in this case, charging the physician in the usual form, with selling intoxicating liquors in Smith County after such sale had been prohibited in said county, was defective, when applied to the facts intended to be covered by this prosecution. Then in order to eliminate any doubt as to what is a good indictment, under the laws of Texas, against a physician for giving an illegal prescription, the court lays down what it holds to be a proper form. Continuing, it says that whenever a party is particeps criminis or aids and abets the sale, he is guilty if his acts bring him within the statutes of principals, as applicable to misdemeanors, whether he be a physician or other person. But in order to convict a physician for giving an illegal prescription on which a sale is made, such sale must have been accomplished by the physician giving the patient a prescription when he well knew at the time he gave the prescription to the applicant that he was not actually sick, or if the proof showed that the physician had not made a personal examination of the applicant for the prescription, this would authorize a conviction provided a sale was obtained in either instance under said prescription. Wherein these views conflict with the McLain and Stephens cases they are overruled. The court understands that this last proposition is also at variance with its views expressed in Stovall vs. State (Tex. Cr. App.) 39 S. W. 934, McQuerry vs. State, 40 Tex. Cr. R. 571, 51 S. W. 247. It therefore held that in order to make a valid prosecution the state must prove that the physician not only knew that the applicant was not actually sick, but that the state must prove he gave the prescription without a personal examination. It now holds that if the state proves either—that is, that the physician knew the applicant was not sick, or if he gave a prescription, whether he knew the applicant was sick or not, without a personal examination, and the sale was obtained on said prescription—in either event he would be guilty of a violation of the law. If the proof in this case had shown, as in the McLain Case, that the physician was aiding and abetting in the sale of the whisky, in addition to the giving of the prescription, in such manner as would make him a principal, he would be guilty. As before stated, this would be true whether he was a physician or not. But the mere fact of giving an illegal prescription on which the sale is procured would not authorize the prosecution of the physician giving the same for the sale thereby procured under an ordinary indictment for selling.

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia

August 27.

1 Abstract of Paper Reporting 615 Cases with Operations Done at the Albany Hospital from March 1, 1902, to March 1, 1903, with Remarks. Albert Vanderveer.
2 *Injection Treatment of Internal Hemorrhoids. Collier F. Martin.
3 Beneficent Agency of Peritoneal Exudates, Adhesions, Aperistalsis and Meteorism in Peritonitis. H. G. Wetherill.
4 *Retrodeviations of the Uterus. L. J. Mellish.
5 Treatment of Chronic Colitis. Jesse Shoup.
6 Paraphimosis: Its Management and Treatment. Charles S. Hirsch.
7 Theory of the Symptom Reflex. T. H. Evans.

2. **Injection Treatment of Internal Hemorrhoids.**—Martin discusses this question in all its phases and describes his method as follows: The rectal speculum devised by the elder Martin is inserted to its full extent; remove the obturator and by gentle rotary and downward motion examine the mucosa carefully. When the edge of the speculum is withdrawn as far as the upper margin of the internal sphincter, any hemorrhoids present on the side examined will prolapse into the mouth of the aperture. Selecting the largest one for treatment, the patient by coughing renders this more prominent. Carefully swab off the surface with some mild antiseptic solution (such as creolin 1 per cent.) and make the injection directly into the most prominent portion of the pile. Withdraw the speculum before removing the needle, allowing the rectal walls to collapse and preventing the escape of fluid or any bleeding. Ordinarily he inserts a suppository containing 32 milligrams (½ gr.) of cocain to prevent the slight discomfort which may be felt for an hour or so, and also a suppository containing 18 c.c. (3 m.) of ichthyol. The ichthyol suppositories are used during the entire course of the treatment, one to be inserted after each bowel movement and one at bedtime. The syringe employed is an ordinary all-metal hypodermic fitted with a four-inch metal extension. The needles are No. 27 gauge and three-quarters of an inch long. The solution used is composed of equal parts of phenol, Boroccit and distilled water, freshly prepared and filtered. Should the fluid become opaque it must be discarded. Ordinary cases require an injection of from 42 c.c. to 92 c.c. (7 m. to 15 m.). The injections should be made at intervals of from five days to a week, and only one pile should be treated at a visit. Under no circumstances does Martin inject external hemorrhoids, nor any structures covered by true skin. Internal hemorrhoids and cases in which there is a prolapse of the mucous membrane only are treated by this method. When an internal hemorrhoid, from long-continued irritation and inflammation, has become excessively hypertrophied and fibrous, the wisest course to pursue is to anesthetize the tumor and remove it surgically. The injections should be continued until all the hemorrhoids have been absorbed and the rectal mucosa does not prolapse into the speculum to any extent when the patient coughs hard. If any hemorrhoidal tissue remains, the percentage of recurrences will be materially increased. If the recurrence does take place and the primary divulsion has been performed thoroughly, a second divulsion rarely is necessary and the patient usually can be relieved permanently by a few additional injections.

4. **Retrodeviations of the Uterus.**—Mellish summarizes his paper as follows: Retroversion is common in virgins but rarely is congenital. Improper clothing during the period of puberty, together with lack of exercise and development, act as causative factors in fully as many cases of retrodisplacement as subinvolution after parturition. Retrodeviations are present in at least 15 per cent. of all gynecologic patients, and in the majority of cases are a source of discomfort or disease. In a large percentage of the cases the intelligent use of the pessary will effect a cure, but when used unintelligently it is positively dangerous. In many cases surgical treatment is absolutely essential. No method of shortening the round ligaments within the abdomen will effect a cure in all cases, because these methods fail to eliminate the weakest part of the ligament, the portion within the inguinal canal. The Alexander-Adams operation is right in principle and will, more or less modified, maintain its position as a classic operation for the cure of retrodisplacements. The Gilliam modification is easy of execution and meets all the indications for the successful treatment of the displacement and of intra-abdominal complications which may be present. Ventral suspension and ventral fixation are "unphysiologic" operations. They should not be performed on patients susceptible of child-bearing. Vaginal operations in fruitful women are mentioned only to be condemned.

Medical Record, New York

August 27

8 *The Subtle Power of Radium. Robert Abbe.
9 *Concerning Shock. Frank P. Vale.
10 The Climate of Tidewater Va. W. A. Plecker.
11 *Pyloric Stenosis in Infants. J. G. William Greeff.
12 *The Modern View as to the Etiology and Treatment of Eczema. Zama Feldstein.

8.—See abstract in THE JOURNAL of July 2, p. 70.

9. **Concerning Shock.**—Vale has made a careful study of that peculiar symptom complex known as shock, and concludes that shock is not due to the exhaustion of any one nerve center or paralysis of any one system, but that the function of every organ, tissue and cell in the body is depressed as the result of a powerful impression on the nervous system which dominates all the functions of life. Experiments performed suggest that an outpouring of lymph into the tissues in excess of normal, and consequent inspissation of the blood, is one factor which added to the lowered vasomotor tone occurring in shock aids in the lessening of blood pressure so characteristic of that condition. This loss of fluid by the blood in shock, a state of vital depression but little short of death itself, conforms to the fact long well known that after death fluid passes into the tissues from the blood vessels. This loss of fluid by the blood and corresponding gain by the tissues as death occurred was sought for and noted in rabbits—as demonstrated by a gain in the specific gravity of the blood and loss in specific gravity of the tissues. The enfeebled action of the heart is largely secondary to the lowered blood pressure; the temporary rise in blood pressure produced by an intravenous injection of salt solution restores the force of heart contractions. The wan, pinched features are due to the empty peripheral vessels and feeble circulation, undoubtedly, however, most marked where there has been an excessive fluid loss by both the blood and tissues, as in peritoneal injuries. The lessened secretions are due to the lowered blood pressure. The feeble circulation and lessened activity of all the organs and general arrest of metabolic processes explain the fall in body temperature. The shallow, slow respiration is in accord with the phenomenon of aerated venous blood. Impaired consciousness is due to the overwhelming nature of the impression on the nerve centers, the feeble circulation augmenting and prolonging this effect.

11. **Pyloric Stenosis in Infants.**—Greeff reports a case of this kind in which he made the diagnosis *intra vitam*. The child was born after a normal labor. For the first two weeks it did quite well, though the stools were not always satisfactory. The child was bottle-fed from the fourth day on, getting two ounces every two hours, day and night, one part milk and two parts water. When two weeks old it started vomiting, became very restless, had temperature and bad smelling stools. When twenty-three days old it was crying constantly, looked very puny, with the skin in loose folds. Stools and urine scanty. The spleen, lungs and heart were normal; liver slightly enlarged; stomach very much enlarged and distended. The lower curvature could be made out three finger breadths below the umbilicus. The milk was stopped and thin gruels, barley water first and later of oatmeal, were substituted. Lavage and colonic flushings were given every day. Stomach washings showed no bile, odor very sour, no free hydrochloric acid. Bowel irrigation showed mucous casts and some thick matter. When the child was one month old a wet nurse was engaged; the child nursed eagerly, but vomiting persisted just the same, coming in great gushes either immediately after each feeding or after every two or three feedings. The child seemed hungry and would take the breast again immediately after vomiting and then usually keep the food down. This also immediately after the stomach washings. The child lost steadily in weight, although at times it appeared to gain a little. The diagnosis of pyloric stenosis was made and a posterior gastroenterostomy was done. The child died from shock twelve hours after the operation. The autopsy confirmed the diagnosis.

12. **Etiology and Treatment of Eczema.**—Feldstein holds that eczema is a parasitic disease and the only thing necessary to produce an eczema is the congestion of the skin, which may be caused by constitutional ailment or defect, or by outside influences such as cold or chill. The parasite, having once been called into activity, as it were, the primary cause can be cured, but the effect—the parasite—remains until destroyed by a parasiticide sufficiently penetrating to establish contact and sufficiently stimulating to restore the skin to its natural activity. Constitutional treatment is only useful as an adjunct to the local treatment. An effective parasiticide is absolutely necessary. He has been using a mixture of Juniperus oxycedrus, stavesacre, Pinus silvestris and Eugenia caryophyllata, prepared without any animal fat. This is a parasiticide capable of deep penetration and at the same time harmless to the tissues. It is necessary to commence with weak applications so as to avoid overstimulation. The parts most liable to overstimulation are the genitals and the scalp. As a general rule, the less drugging the better. If internal remedies have to be employed they should be given for a definite purpose and in accordance with definite indications.

New York Medical Journal

August 27

13 Multiple Sarcomata of the Subcutaneous Tissue Without Evidence of a Preceding Primary Growth. J. Turner Thomas.
14 *Case of Arthritis Deformans of the Spine. Otto Lerch.
15 *What Are the Facts and Arguments for and Against the Infectious Nature of Malignant New Growths. Charles H. Richardson.
16 *The Roentgen Rays in the Treatment of Tuberculosis of the Joints. J. Rudis-Jicinsky.
17 *Bacteriuria. Edward L. Keyes, Jr.
18 Pulmonary Tuberculosis: Some General Considerations and Its Treatment. Clarence J. Wheaton.
19 Remarks on the Use of the Nasal Saw. George A. Richards.
20 Case of Poisoning by Illuminating Gas. Samuel J. Lupp.
21 Status Lymphaticus and Death Following Chloroform Anesthesia. J. A. Simmons.

14. **Arthritis Deformans of the Spine.**—Lerch describes the case of a man aged 54, who six years ago noticed a slight stiffness in the neck following a trauma, which slowly progressed downward, finally involving the whole spine, making it stiff and immovable, bending him and forcing him to stoop over considerably. All other joints are free, with the exception of the shoulder joints, which are very slightly involved. The patient denied having had syphilis and shows no traces of lues. There is no inherited tendency to the disease and the cause seems to be due to a concussion of the spine produced by a fall from a wagon, the patient landing on his hands, face and chest. The first symptoms appeared four months after the fall.

15. **Infectious Nature of Malignant New Growths.**—Richardson reviews the literature with reference to this subject and concludes that the various mentioned so-called parasites failed to make good in fulfilling the requirements of an infecting agent. The vast majority of competent pathologists are of the belief that the so-called parasites are changed or degenerated cells not yet thoroughly classified. Contaminations could not be excluded in the cases that showed any growth out of the vast number of cultures taken on every known media. The tumors produced by *inoculation of blastomycetes* show them to be only granulomata. Blastomycetes can be cultivated from the air, hence contamination is always possible. In fact, no one has yet been able to grow or demonstrate parasites in *malignant growths*. The facts and arguments are so overwhelmingly on the side of the embryonic cell theory that for the time being at least we shall have to believe that the latency is due to an abnormal play of forces within the body of which as yet we know but little. A benign tumor is an abnormal deposit or growth of normal tissue, at least for a time; a supernumerary toe is normal tissue growing in an abnormal position. The author believes that time will show a reaction in the present movement of parasitism and many of its strongest advocates will refute their theories and admit that their conclusions were reached without sufficient investigation.

16. **Roentgen Rays in Joint Tuberculosis.**—The author emphasizes the efficiency of the Roentgen ray in the treatment of joint tuberculosis. Two cases are cited and others are referred to that were benefited by the Roentgen ray after all other treatment had proven futile. Not only were the patients very soon relieved, but they feel well and are strong and hearty, some with ankylosis, others without, according to the

individual circumstances of each case The proper support adapted to each individual chronic case must be supplied so that the joint will become ankylosed in about four months under the influence of the radiation, and in simple tuberculous synovitis of any joint a prompt cure is obtained, with perfect motion and usefulness of the joint, by injecting it once with iodoform emulsion, formalin and glycerin and exposing it immediately to *x* ray treatment It is well to observe by means of fluoroscopic examination from time to time, the results of the *x* ray treatment, and to be constantly on the watch for any special susceptibility of the patient, autointoxication, the regulation of the bowels with all the rules of proper hygiene, good nutrition, light and fresh air

17 **Bacteriuria** —According to Keyes, bacteriuria is not a simple urinary infection without parietal lesions It is but a symptom of catarrh in certain parts of the urinary tract, in fact, it is the chief and only striking feature of certain diseases, notably certain varieties of catarrhal pyelitis, such as typhoid, puerperal and acid retention pyelitis, any one of which may become suppurative Cystitis never causes bacteriuria, and prostatitis and spermatocystitis only exceptionally cause bacteriuria

Boston Medical and Surgical Journal

August 25

22 *Present Status of Hydrotherapy and Other Forms of Physical Therapeutics Joseph H Pratt
23 *Practical Application of Hydrotherapeutic Measures Charles S Millet
24 Sacral Spina Bifida with Reference to the Skin Representation of Sacral Nerve Roots E W Taylor
25 Operations on the Stomach with Report of Cases (Continued) John C Munro

22 **Present Status of Physical Therapeutics** —This is a brief sketch by Pratt of the position hydrotherapy and other physical treatments occupy to day, with a review of the literature showing that the subject is worthy of more attention, and hoping that the large hospitals will soon have facilities for physical therapy that will compare favorably with those of Germany and that in order to insure the intelligent application of physical agents it is necessary that instruction in physical therapeutics should be given in our schools

23 **Practical Application of Hydrotherapy** —Millet's paper takes up the subject of hydrotherapy in the same manner as the previous paper by Pratt detailing the author's experience and results and urging that the remedy receive the confidence which it deserves

Medical News, New York

August 27

26 Delirium from Nervous Shock Pearce Bailey
27 A New Portable Sphygmomanometer Also a Blood pressure Chart T C Janeway
28 *Osteoplastic Amputations A V Moschcowitz
29 *Need of More Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media James F McCaw
30 Intestinal Obstruction Following Appendicitis Operations Report of 80 Cases Clarence A McWilliams
31 *Aseptic Catheterization of the Urinary Passages M Krotoszyner and W P Willard
32 Valuable Suggestions from the Inspection of Urine I S Wile
33 Quantitative Albumin Determination K M Vogel

28 **Osteoplastic Amputations** —The burden of this paper is to prove the superior advantages of amputation stumps formed by osteoplastic methods over those formed by the older methods A stump is perfect when it is fully able to carry on support and locomotion The essential factor of a good stump is that in no case must the bone expose on its distal extremity a wounded surface, and in order to obtain this result it is necessary to cover or seal the wounded surface with bone covered by its periosteum or, if this be impossible, it is preferable to exarticulate It is for this reason that Bier devised osteoplastic amputation, the underlying principle of which is to form either from the bone amputated or from a neighboring bone, a thin osteoperiosteal flap, which obtains its mobility from a hinge of periosteum This osteoperiosteal flap is brought into correct apposition with the sawn surface of the amputated bone, and its periosteum is sutured to the opposed periosteum and other convenient structures This operation is indicated in every amputation, except in those cases in which the general condition of the patient demands a hasty termination of the operation, and in cases where the nutrition of the parts is so poor that there is danger of necrosis of the osteoplastic flap

29 **Chronic Suppurative Otitis Media** —McCaw says that the importance of this condition and the early application of appropriate treatment should be appreciated more fully by every physician He believes that many patients die from intracranial complications in which the chronic suppurative middle ear disease is never recognized as a causal factor Chronic otorrhea is not given the importance that its gravity demands The treatment should be based on the pathologic condition present in each case In addition to proper attention to the nose and nasopharynx, appropriate treatment to the middle ear will yield good results in a large percentage of cases Where caries is limited to the ossicular chain and there are no contraindications, ossiculectomy should be the operation of selection Cases presenting symptoms of extension beyond the tympanic cavity should be subjected to the radical operation

31 **Aseptic Catheterization** —The authors consider the sterilization of catheters, the preparation of the urinary canal and the introduction of the instruments in an aseptic manner They detail a large series of experiments with infected catheters and summarize those methods of sterilization which prove to be safe and simple, as follows 1 Soft rubber catheters are rendered sterile by being boiled five minutes, preferably in sodium chlorid solution, care being taken that the solution fills the lumen of the catheter As a matter of precaution the catheter should be washed with soap spirits and running water after use 2 Hard rubber and silk and cotton woven catheters should be boiled five minutes in a saturated solution of sulphate of ammonia Each instrument should be wrapped separately in gauze or a towel, or, if several catheters are to be sterilized, in such a manner that their surfaces shall not come in contact with the sides of the vessel or other catheters 3 Ureter catheters can be folded and wrapped in a towel so that their surfaces are kept apart and boiled for five minutes in a saturated solution of ammonium sulphate 4 Cystoscopes should be sterilized by first washing them in soap spirits and water then vigorously rubbing them for two minutes with two different pieces of gauze or cotton wet with soap spirits, and then with alcohol, for one minute The channel of the catheter can be cleansed by means of a brush first brushing with soap spirits and then with alcohol Instruments can be kept aseptic if they are snugly wrapped in a piece of gauze or towel wet with soap spirits

Cincinnati Lancet-Clinic

August 27

34 Pregnancy After Fixation of the Uterus Byron Stanton
35 Some Experience with Pott s Disease D D Armstrong
36 Gonorrheal and Gleet Infections in the Female Earl Harland

American Journal of Obstetrics, New York

July

37 *Relation of the Appendix to Pelvic Disease Reuben Peterson
38 *Clamp and Cautery in Appendectomy Joseph Rilus Eastman
39 *Study of a Specimen of Ovarian Pregnancy J Clarence Webster
40 *Ureterolithotomy J Wesley Bovée
41 *The Preventive Treatment of Pelvic Floor Lacerations J Clifton Edgar
42 Transverse Suprapubic Division of the Skin for the Simultaneous Performance of the Intra abdominal Work and of Inguinal Shortening of the Round Ligaments Henry J Kreutzmann
43 Treatment of Post operative Peritonitis Egbert H Grandin
44 Treatment of Gonorrheal Peritonitis in Females—Young and Older A Ernest Gallant

37 **Relation of Appendix to Pelvic Disease** —Peterson removes the appendix in every case where the abdomen is opened for other purposes unless the patient's chances of recovery are jeopardized by the addition of five minutes' time required for the removal Two hundred appendices thus removed were subjected to careful microscopic examination Thirty two and five-tenths per cent were absolutely negative, 28 5 per cent showed evidences of active catarrhal inflammation or ulceration of the mucosa, with atrophy of the mucosa and lymphadenoid tissue or muscularis, associated with fibro

blastic proliferation or formation of scar tissue, 20 5 per cent were of doubtful significance, showing hyperplasia of the lymphadenoid and connective tissue, dilatation or constriction of the lumen, local or general atrophy of the muscular coat, unattended by conclusive evidences of inflammation, 14 per cent showed every evidence of a former inflammation, 3 per cent were acutely inflamed, 1 5 per cent showed evidences of periappendiceal inflammation Thus, 53 per cent showed practically no evidence of disease, while the remaining 47 per cent were diseased As the result of his clinical observations Peterson concludes that The average length of the appendix is between 8 and 9 cm, the maximum length being found between the ages of 20 and 30 After this period the average length of the appendix is less, probably because of normal atrophy or because of inflammatory changes Menstrual pain may be due or enhanced by the presence of an inflamed appendix. The congestion incident to menstruation increases the inflammation and gives rise to attacks of appendiceal colic It is exceedingly difficult to differentiate between pain due to pelvic lesions and pain due to chronic appendicitis The shape of the appendix and the existence of adhesions can not serve as an index of its normality or disease The appendix is the seat of fecal concretions in at least 8 per cent of all cases but this does not signify disease Nearly 50 per cent of patients with chronic disease of the appendages show accompanying disease of the appendix This may be due to direct contact of these structures, or the infection may travel from one to the other through the lymphatics In 50 per cent of patients with uterine fibromata there is accompanying disease of the appendix In 70 9 per cent of patients with ovarian cystomata the appendix is diseased The appendix is not infrequently adherent to an ovarian cyst and may even infect the latter Since it is impossible for the surgeon to determine by gross appearances which appendix is diseased, and since nearly 50 per cent of appendices where the abdomen is opened for other purposes are found diseased, it is the surgeon's duty, in the absence of contraindications, to remove the appendix in every such case. Systematic examination of a series of removed appendices shows the occasional presence of primary carcinoma in such an early stage that it could not have been detected by inspection at the time of operation Even were carcinoma of the appendix not commoner than once out of 200 abdominal sections it would still be an argument in favor of the removal of the appendix in every case where the abdomen is opened for other purposes

38 **Clamp and Cautery in Appendectomy**—Eastman criticises the usual methods employed for abscission of the appendix and disposition of the stump because in many cases they fail to effect a complete cure and often are responsible for the formation of fecal fistulæ and sepsis He believes that a light clamp with broad accurately fitting protecting shields, applied to the base of the appendix, will effectually preclude the possibility of pus from the cecal wall or appendix contaminating the neighboring serosa or floating into the peritoneal cavity Very little pus or other fluid contents will escape, though the appendix be quite full, if the separation is made with the hot cautery knife between two clamps and moreover whatever fluid may escape will have been rendered sterile by the heat of the cautery though this heat need not be intense enough to burn or sear the serosa If the heat is feared the appendix may be cut off with scissors or knife, while the special clamp with its trough like shields protects the peritoneal cavity from contamination The author's method is a modification of the one practiced by his father, the late Dr Joseph Eastman It consists in the addition of the removable shields in which the escaping contents of the appendix are caught, and the changing of the grooves in the jaws so that they run not transversely but parallel to the jaws of the forceps The forceps are applied close to the cecum the jaws parallel to the ventral longitudinal muscle band Light artery forceps are applied above the clamp and the appendix is severed between the artery forceps and clamp with a Paquelin cautery The removable shields catch all escaping fluid from the appendix The slightest traction releases them After they have been displaced the base of the appendix is held in a single light clamp Either pursestring sutures or Lembert sutures can then be introduced After removal of the forceps the canal is explored and the stump invaginated The use of the forceps minimizes hemorrhage and in most cases will shorten the time of operation The cautery used is a light cau'ery blade and the heat is just sufficient to separate the appendix and destroy bacteria No difficulty is experienced in making this operation through the small gridiron incision The forceps should have slender jaws beveled on the under side to avoid cutting the serosa of the cecum where they compress

39 **Ovarian Pregnancy**—Webster gives the history of a case of ovarian pregnancy which necessitated the removal of the ovary during the third month of the pregnancy The macroscopic and microscopic appearances of the specimen are described in detail and numerous illustrations are shown

40—See abstract in THE JOURNAL, xlii p 1583

41—Ibid, p 1584

Medical Herald, St Joseph, Mo

August

45 Errors in Diagnosis of Ureteral Calculus Byron Robinson
46 *Conservative Surgery J W Cokenower
47 A New Method in the Management of Irreparably Crushed Extremities Charles H Wallace

46 **Conservative Surgery**—The subject of ovarian neurosis says Cokenower, is one of the most difficult, because of the impossibility to fix a standard from which to determine the beginning of surgical treatment, hence, the question is one of diagnosis rather than of surgery, and the thing to do is to decide whether the symp'oms arise directly or indirectly from pelvic disease All diseases are not the result of pelvic disease The intimate relationship existing between diseased conditions of the reproductive organs of the female and functional disturbance and organic change in other parts of the body should be better understood, also that fermentation and putrefaction within the intestinal canal will produce autoinfection and intoxication, ptomaines and leucomaines, which are the most common cause of nervous disease Many surgical procedures have failed utterly to relieve the condition for which they were advised Many operations which a few years ago were very popular for the relief of supposed ovarian nervous troubles have grown in disfavor and are now seldom done Operations on the ovaries that preserve the menstrual and reproductive function should be employed, when possible, in lieu of complete extirpation Healthy displaced ovaries may be anchored to the posterior surface of the broad ligament, or by shortening the infundibulo pelvic ligament Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on whom to do conservative operations on the ovaries Conservative operations should be avoided as a general rule, in all pus cases

Ophthalmic Record, Chicago

August

48 *Traumatic Dislocation of the Lachrymal Gland Edward Jackson
49 Partial Fixation of the Globe for the Improvement of Vision in Certain Cases of Nystagmus J Elliott Colburn
50 A Simple Instrument for Removing the Granulations in Trachoma M D Stevenson
51 Comparative Study of Normal and Subnormal Color Perception 'n Its Relation to Distant Signal Lights Mortimer Frank
52 A New Tube for and Method of Operation on the Lachrymal Duct to Restore Tear Drainage J Winter Wamsley
53 Polpys in the Lower Canaliculus George F Libby
54 Case of Anisocoria Henry D Steele
55 Dionin in Ophthalmic Therapeutics Albert E Bulson Jr

48 **Dislocation of Lachrymal Gland**—Jackson reports a case of dislocation of the lachrymal gland in a man aged 44, who had been thrown from a wagon, falling on his head, which struck a sharp stone He received a wound in the upper lid parallel to the orbital margin and about one inch long, from which there was free bleeding The first physician called closed the wound with several stitches and dressed it Healing took place by first intention but the lids remained red and swollen The eyeball was displaced forward, downward and inward, and was capable of only very slight movement in all

directions. There was no sign of fracture of the orbit. On examination the eye itself was found to be perfectly normal. The gland was removed and the patient made an uneventful recovery. The eye presents no deficiency of lachrymal secretion and although the movements of the upper lid are very imperfect the palpebral fissure can be opened to the width of six millimeters. Movement of the eyeball is normal in all directions except upward, where it is limited to thirty degrees.

American Journal of the Medical Sciences, Philadelphia

August

56 *Two Thousand Operations for Appendicitis. John B. Murphy.
57 Pseudomelanosis of the Hemolymph Glands. Alfred Scott Warthin.
58 *A Study of the *Tubercle Bacilli* Isolated from Three Cases of Tuberculosis of the Mesenteric Lymph Nodes. Theobald Smith.
59 A Study of Circumscribed and Diffuse Pulsation of the Wall of the *Thorax*. Joseph Sailer.
60 Pyopericardium and Commencing Interstitial Pneumonia Complicating Ileocolitis in an *Infant* Aged 1½ Months. D. J. M. Miller and J. C. Gittings.
61 Treatment of Chronic Internal Hydrocephalus by Autodrainage. Alfred S. Taylor.
62 Case of Splenomegaly with Blood Changes and Symptoms Resembling Those *of* Banti's Disease Apparently Due to Malaria. Solomon Solis Cohen and Randle C. Rosenberger.
63 The Leucocytosis of Pregnancy, of the *Puerperium and* of Eclampsia. Ralph W. Lobenstine.
64 *The* Relations of the Islands of Langerhans to Diseases of the Liver, with Special Reference to Carbohydrate Metabolism. Joseph C. Ohlmacher.
65 Orthostatic Albuminuria. Charles Louis Mix.
66 Adiposis Dolorosa. J. N. Hall and C. J. *Walbrach*.
67 Aneurism of the Heart. Philip D. Bourland.
68 Esophageal Neuroses. A. L. *Benedict*.

56. **Two Thousand Operations for Appendicitis.**—Murphy's article is a retrospective consideration of the subject of appendicitis based on 2,000 operations, with deductions therefrom. After a very thorough description of the surgical anatomy of the appendix the author proceeds with the clinical history of the *disease*. Foreign bodies were present in a little less than 2 per cent. of the cases. Fecal concretions were found in 38 per cent. The erosion produced by these objects produces an atrium for the admission of bacteria. The bacteria found were, in the order of frequency, bacillus coli communis, staphylococcus pyogenes aureus and albus, streptococcus, pneumococcus, bacillus tuberculosis and actinomycosis. Appendicitis is neither contagious nor infectious, although it seems to have family predilections. The symptoms in the order of their occurrence are (1) pain in the abdomen, sudden and severe, followed by (2) nausea or vomiting within a few hours, but most commonly between three and four hours after the onset of pain, (3) general abdominal sensitiveness, most marked in the right side or more particularly over the appendix, (4) elevation of temperature beginning from two to twenty-four hours after the onset of pain. When that order varies, Murphy always questions the diagnosis. If nausea and vomiting or temperature precede the pain he feels certain that the case is not one of appendicitis. When the temperature *alone* precedes the pain for a day or two, he fears that it is typhoid fever with a typhoid ulcer in the appendix. In not a single case was pain, usually colicky in character, absent as an initial symptom. It usually reached the acme of intensity about four hours after its onset and then subsided gradually in the *majority* of cases. With the cessation of pain, in cases where the pus was liberated from the appendix came diminution or cessation of absorption, but not necessarily a diminution or cessation of danger. He has never had a case of appendicitis without elevation of temperature. He does not consider leucocytosis of any value except as an indication of the absorption of septic products. Furthermore, infection may be present without there being any leucocytosis. The character of the pulse is of little value in the differential diagnosis of appendicitis. With reference to the clinical course of appendicitis, Murphy says that the inflammation may subside within a few hours by escape of the infected material along the tract of the appendix into the cecum, that it may subside as a circumscribed inflammation of the appendix, that it may form a circumscribed infection without the production of *pus in the free peritoneal* cavity, that it may subside as a circumscribed abscess outside the appendix, rupture through the wall of an adjacent coil of intestine and empty itself in that way, that it may subside as circumscribed peritoneal abscess and remain quiescent to be opened later, *that it may terminate in a circumscribed or diffuse general* suppurative peritonitis, that thrombophlebitis *of the iliac veins and general* embolism, portal thrombosis, hepatic abscess, *extension of the inflammation into the pelvis, behind the peritoneum, around the* kidney, liver and gall bladder, *into the* subphrenic space, through the diaphragm into the *lung or into* some portion *of the urinary* or genital tracts, are possible methods of termination. The *time for* operation is divided *into four* stages: 1, within the first forty-eight hours, 2, from the second to the fifth day, 3, from the fifth or seventh day *on*, 4, in the intermediate stage—between *attacks*. He advises operation on every *patient* who has been through an acute attack of *appendicitis*. In this class of cases he has had only one death *in 1,300 or 1,400* operations, the result *of* an acute infective peritonitis traceable to an interne who had without Murphy's knowledge made a postmortem on a *post* abortion peritonitis the night before the *operation*. The type of operation and the subsequent management of the cases are described in detail, but Murphy's methods are sufficiently well known so as not to necessitate detailed reference to this portion of the article. The mortality varies considerably when it is studied in groups of 100 cases. The greatest mortality was in the first 100 *when it reached 11*. The number of deaths *in each 100* then gradually decreased until after the meeting of the American Medical Association in Atlanta in 1896, when a great cry was raised against peritoneal operations *and* particularly against the *frequent operations* for appendicitis. General practitioners hesitated before advising operation, and consequently the mortality rate increased in the year following this meeting, reaching 7 in 100. Then there was a gradual decline as the error of the position was recognized, *until a* second epidemic of so-called conservatism (expectant treatment) passed over the country and the mortality reached 6 in 100. For the last four years there has been a steady decline in the number, until in the last 100 operations there was a mortality of only 2 per cent. One of these deaths was due to an ileus of the small intestine high up, bearing no relation to the appendical operation, and the other a death from a double pneumonia six days after the operation for general septic peritonitis of appendical origin. Every death from appendicitis is the result of not calling in a physician sufficiently early after the onset of symptoms, or of dilatoriness on the part of the physician and surgeon in not acting promptly when they are called. There is no plan of medical treatment which will lower the mortality in appendicitis. The physician can make an early and accurate diagnosis and he is not justified in deferring operation because the final results in appendicitis as a whole, are very gratifying. The surgeon should conduct a case of appendicitis to a favorable termination with the least hazard or risk to the patient, regardless of his personal or professional feeling. A second operation with a living patient at the end is better than a primary radical operation with a mortality of 2 or 3 in a hundred as the price. The man who is having more than three or four deaths in a hundred operations is either receiving his patronage from incompetent *and* procrastinating medical men, or he is doing too much manipulating in the peritoneal cavity under unfavorable pathologic conditions.

58. **Study of the Tubercle Bacilli.**—Smith says that no observations have thus far been presented which invalidate the distinction between the bovine and the human variety of tubercle bacilli made by him in 1898. Since then he has made three cultures from the mesenteric lymph glands of human beings, studying them from these points of view best adapted to inform us whether they are of the bovine or of the human variety. The bacilli isolated from these three cases of presumable food infection do not correspond to the bovine type of tubercle bacilli in any one particular. They were cultivated readily from nearly all the guinea-pigs inoculated, and grew luxuriantly from the start on dog serum. Subcultures on glycerin *agar and* glycerin bouillon grew vigorously after the first transfer from dog's serum. Morphologically, the bacilli were either fairly long, averaging about 2 microns in

length or they were very variable The uniformly short, straight forms of the bovine type were absent In all cases the bacilli were of a very low order of virulence, lower even than that of many of the cultures of human origin studied heretofore We have as yet no satisfactory evidence concerning the degree of change if any which tubercle bacilli of bovine type may undergo in the human body That changes could be as thorough going as would be the case if we were inclined to attribute these cases to infection by way of the digestive tract through milk is at present quite inconceivable and we must content ourselves to referring them to infection with bacilli of strictly human origin

61 **Chronic Internal Hydrocephalus**—According to Taylor my method of drainage, done with a view to relieving internal hydrocephalus in order to be successful must be internal slow prolonged or permanent It would seem as if a small permanent fistula between the ventricles and the subdural space would most closely resemble normal conditions and in the hope of attaining that end six cases were operated on as follows under general anesthesia An osteoplastic flap about two inches in diameter is turned down with its hinge over the base of the mastoid and just above the level of the horizontal lateral sinus In the lower part of the dura mater thus exposed a semicircular flap base downward and about one inch in diameter is made Care must be taken not to injure any distended veins as their walls are so pliable that neither clamp nor ligature is of much use, and the bleeding is annoying A slender aspirating needle is passed through the second temporo sphenoidal convolution which usually protrudes inward and slightly upward until it enters the ventricle when the clear fluid spurts out and is collected in a sterile tube for bacteriologic examination Only a very small amount should be allowed to escape in this way The drain is now made of No 2 forty day chromic catgut Three loops (six strands) about an inch and three quarters longer than the thickness of the brain are bound together by a loose spiral of catgut starting at one end and stopping so as to leave an inch and a quarter of the loops free Around the shaft of the drain but not covering its tip are rolled three layers of cargile membrane With a long narrow bladed thumb forceps the tip of the drain is seized and carried into the ventricle along the tract made by the aspirating needle The tip projects about one half inch into the ventricle The free loops of gut are slipped under the dura, between it and the brain surface in different directions but chiefly downward toward the great lymph spaces at the base of the brain A sheet of cargile membrane is slipped between the dura and the catgut loops to prevent adhesions The dura is sutured with catgut the bone flap is held in place by three or four chromic catgut sutures the deeper soft tissues by catgut, and finally the skin with silk A good sized sterile dressing is applied with some pressure After the first twenty four hours there is no further external escape of ventricular fluid Two of the cases so operated on are still living twenty and eleven months respectively Although there is little improvement in their physical condition the betterment of the mental condition is quite marked One case lived two months and died of acute gastrointestinal disturbance Another died about sixty hours after operation and unquestionably as the result of it Another case developed an otitis media on the fourth day then anuria and died on the eighth day The last case died suddenly on the sixth day when it had apparently been recovering slowly from the sharp reaction of the first three days That prolonged drainage can be obtained by this method seems demonstrated by the first two cases It is interesting to note that in both cases the drainage became most active about two and one-half to three months after operation The operation to attain its best results must be performed early before irreparable damage has been done to the brain It must be brief to avoid shock inflict the least necessary traumatism to the brain permit of the escape of only a little ventricular fluid so as to avoid any sudden change in the hydrostatic condition of the brain The after treatment of these cases resolves itself into a problem of medico pedagogical training

Annals of Gynecology and Pediatry, Boston

July

69 *The Boston Floating Hospital Robert W Hastings
70 The Immediate Repair of Injuries of the Perineum Received in Childbirth Ernest W Cushing

69 **The Boston Floating Hospital.**—Hastings describes this unique hospital, which has been in existence since 1894 The vessel used, a barge, has three decks The lower deck and the main deck, except the cabin in the stern, are used for the machinery, tanks crew's quarters and the navigating appliances The stern cabin is used as a ward and contains 15 cribs The open space on this deck serves as a dining room The kitchen storeroom babies food department, refrigerators, a small operating room, linen room and one or two offices are also located on this deck A small open space is used by guests twice a day for a kindergarten The largest ward on the boat has beds for 21 children Another ward, intended for chronic, generally tubercular cases, has 4 beds Another ward has 15 beds, a total of 53 beds The upper deck is used almost entirely by day patients, who come at 9 in the morning and leave at 4 in the afternoon Over 30 nurses and from 10 to 15 doctors and medical assistants take care of the patients The medical staff consists of a visiting and a consulting staff a resident physician two assistant resident physicians and an externe Six medical assistants are assigned—two to each of the medical services and two to the out patient services The nurses are all graduates and work for a merely nominal wage because of the experience they can get and the course of lectures which is given each year by the staff Satisfactory practical work and the passing a written examination based on these lectures entitles them to a diploma Two hundred and ten patients were treated in 1903 in the permanent wards, each one staying an average of 17 2/3 days The death rate was about 23 per cent, while 46 per cent were discharged well Of the 50 patients who died 16 were moribund at entrance and survived less than 48 hours Four hundred and ninety eight patients remained for the day only, many of them making ten or twelve trips day after day Of these 272 left well while 110 others were greatly relieved An abundance of pure fresh air is the essential element in the treatment of the cases, although this is supplemented by food, care and a little medicine The milk used comes directly from the Walker Gordon farm and is delivered within four hours after the time it is milked A so called 'atmospheric plant" supplies fresh air on days when the humidity is very high Air is taken from the upper deck carried over coils of brine, kept at zero temperature, and the moisture contained in it is frozen out This dried air is then warmed by a steam coil and blown into the wards By this means an even temperature of about 68 F and a humidity of about 50 per cent is maintained The vessel is towed out into the harbor at 9 30 a m and remains there until 4 30 p m

American Practitioner and News, Louisville, Ky

August 15

71 General Suppurative Peritonitis of Streptococcus Origin with Recovery F S Allen
72 Mouth Breathing M F Coomes

Columbus Medical Journal

August

73 Placenta Previa with Report of Some Cases D S Hanson
74 History of the Surgery of the Biliary Ducts Byron Robinson
75 Differential Diagnosis of the Chronic Specific Diseases of the Skin Herbert O Collins
76 The Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis Arthur Newsholme
77 Sanitary Organization J W Clemmer

Detroit Medical Journal

August

78 Diabetic Gangrene Stuart E Galbraith
79 Diseases of the Rectum and Anus Modern Methods of Treatment and Diagnosis Louis J Hirschman
80 Therapeutics of the X ray Henry H Cook
81 Foreign Body in the Meatus Acusticus Externus Aggravating an Acute Tympano-mastoiditis Emil Amberg

Northwestern Lancet, Minneapolis

August 15

82 Some of the Difficulties to be Overcome in the Radical Mastoid Operation for the Cure of Chronic Purulent Otorrhea Frank Allport
83 Etiologic Relationship Between Cancer and Ulcer of the Stomach Geo Douglas Head.
84 Degenerative Diseases of the Heart and Arteries J C Adams

Chicago Medical Recorder

August 15

85 Report of a Case of Leukemia Treated by X-rays and Symptomatically Cured Paul Chester
86 Clinical Aspects of Catharsis Di Walsh
87 Home Sanatoria Ethan A Gray
88 Primary Perichondritic Abscess of the Thyroid Cartilage Due to Typhoid Fever (with Report of One Case) Henry Herbert
89 Enuresis Nocturna William F Waugh
90 The Nerve Hygiene of School Children Walter M Fitch
91 Nervous Diseases and Eyestrain Arla L Derdiger

Kentucky Medical Journal, Louisville

August

92 Prostatic Enlargement and Prostatectomy August Schachner
93 Diagnosis, Prognosis and Treatment of Chronic Non-suppurative Middle-ear Disease J Morrison Ray
94 Self-dispensing by Physicians from the Pharmacist's Standpoint Addison Dimmitt
95 Some Phases of Hysteria as We See It in the Study of Diseases of the Eye, Ear Nose and Throat Adolph O Pfingst
96 Relations of the Trained Nurse to the Physician Arch Dixon

Vermont Medical Monthly, Burlington

June 25

97 Tubal Gestation with Vaginal Enucleation C W Strobell
98 Old and New Treatment of Summer Complaint Robert M Sterrett
99 Co-ordinate Functions of Funeral Directors and Health Officers J Warren Roberts

Medical Examiner and Practitioner, New York

August

100 Gonorrhea Its Influence on Life Expectancy Ferd C Valentine and Terry Townsend
101 In What Particular Can an Ophthalmic Examination Be of Any Aid to a Life Insurance Examiner? George F Suker
102 Abstract Diagnosis vs Applied Diagnosis Charles W Eaton
103 Significance of a Discharge from the Ear Edward B Dench
104 Relation of Modern Medicine to Life Expectancy Allison Maxwell
105 The Significance of Indigestion Fenton B Turck

Bulletin of the Johns Hopkins Hospital, Baltimore

July August

106 Sensory Distribution of the Fifth Cranial Nerve Harvey Cushing
107 Stephen Hales the Physiologist Percy M Dawson
108 The Chemical Origin of Leucocytes L Schmoll
109 Mental Phenomena and Visceral Disease Carey B Gamble Jr

Woman's Medical Journal, Toledo

July

110 Address State Society Iowa Medical Women Jennie McCowen
111 Status of Medical Women in Iowa Anne Burnet
112 Hepatoptosis or Displaced Liver Kate A Mason Hogle
113 Case of Puerperal Peritonitis Treated with Formalin Solution Jennie G Christ
114 Ptomaine Poisoning—A Case Martha Anderson

Physician and Surgeon, Detroit and Ann Arbor

July

115 The Relation of the Catholic Church to Medicine Frank A O'Brien
116 Prognosis Its Theory and Practice George Dock

University of Pennsylvania Medical Bulletin, Philadelphia

July August

117 Immunization Against Rattlesnake Venom Hideyo Noguchi
118 Tuberculous Pericarditis Based on a Study of 7,219 Autopsies in Philadelphia Hospitals George W Norris.
119 Studies on Immunity Against Streptococci D H Bergey
120 Study of Formaldehyd in Milk Its Germicidal Action and the Gradual Disappearance of It from Milk D Rivas
121 Cellular and Bacterial Content of Cow's Milk at Different Periods of Lactation D H Bergey
122 Study of the Properties of the Serum of Rabbits Treated with the Adrenal Glands and Erythrocytes of Guinea-pigs Nathaniel Gildersleeve
123 Sanitary Supervision of the Collection and Marketing of Milk D H Bergey
124 Chronic Poisoning from Bisulphide of Carbon Henry D Jump and John M Cruice
125 A Student's Desk for the Physiologic Laboratory Colin C Stewart

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FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

British Medical Journal, London

August 20

1 The Fallacy of Finalities (President's Address) Alexander Crombie
2 *Trypanosomiasis David Bruce
3 Human Trypanosomiasis and Its Relation to Congo Sleeping Sickness J E Dutton John L Todd and C Christy
4 *Cerebrospinal Fluid in Sleeping Sickness (Trypanosomiasis) C Christy
5 First Aid in Civil Life in the Tropics T H Hendley
6 Treatment of Dental Diseases in the Navy N G Bennett
7 Volunteer Brigade Medical Unit P B Giles

2 **Trypanosomiasis**—Bruce lays down certain propositions, the result of his observations 1 That the trypanosoma found in the blood of natives on the west coast of Africa and in Uganda, and those found in cases of sleeping sickness, are identical 2 That the so called "trypanosoma fever" is nothing but the first stage of sleeping sickness 3 That neither the native nor the European is immune to this disease 4 That as regards prognosis, instead of being favorable, the mortality is 100 per cent in both the colored and the uncolored races, at the same time a percentage of the natives who have trypanosomes in their blood may kill off these trypanosomes before the disease has given rise to the pathologic changes which constitute sleeping sickness 5 That up to the present no evidence has been brought forward to show that any of the lower animals take any important part in the spread of human trypanosomiasis 6 That human trypanosomiasis is conveyed from the sick to the well by means of a biting fly—the *Glossina palpalis* 7 That several members of this genus are also able to convey the virus from the sick to the healthy 8 That there is no proof that other genera of biting flies carry the infection under natural conditions 9 That there is no proof that *Trypanosoma gambiense* passes through any metamorphosis in *Glossina palpalis*, but that the transference of the parasites by this fly from one animal to another is purely mechanical 10 That all the stages of development of the *Trypanosoma gambiense*, so far as is known, take place in the human host 11 That measures for the prevention of the spread of sleeping sickness should aim at preventing, as far as possible, the movement of natives from sleeping sickness areas into any part of the country where any species of tsetse fly is found, the evacuation, if possible, of those areas, the destruction of the breeding places of the tsetse fly and of the fly itself, whenever possible

4 **Cerebrospinal Fluid in Trypanosomiasis**—Christy studied the cerebrospinal fluid obtained by lumbar puncture in 104 cases of sleeping sickness, and presents the following provisional conclusions 1 That in many cases the trypanosomes never find their way into the cerebrospinal fluid, and in those cases in which they do, they are more frequently to be found toward the end of the disease 2 That the commencement of the fever or other symptoms is in no way correlated to the entrance of the parasites to the cerebrospinal fluid 3 That a large number of trypanosomes in the cerebrospinal fluid is rare, that when it does occur there is usually an access of temperature 4 That the parasites may come and go in the cerebrospinal fluid as in the blood 5 That enormous numbers may appear in the blood without appearing in the cerebrospinal fluid, and to some extent, vice versa 6 That when trypanosomes are present in the cerebrospinal fluid, its white cell elements are apt to be increased 7 That in cases where the parasites gain access to the cerebrospinal fluid early in the disease, mania and other head symptoms are more likely to be prominent

The Lancet, London

August 20

8 Reflections Suggested by the New Theory of Matter A J Balfour
9 *Pathology and Treatment of the Herniæ of Children and Their Relation to Conditions in the Adult E M Corner
10 Electrocution on the Railway The Dangers of the Live Rail Thomas Oliver
11 On the Action of Venoms of Different Species of Poison Snakes on the Nervous System George Lamb and Walter Hunter
12 Respiratory and Cardiac Reflex Induced by Peripheral Impressions on the Public Nerve During Anesthesia Alexander Wilson
13 Case of Latent Portal Cirrhosis with Sudden Onset of Hematemesis and Rapidly Fatal Toxemia Robert M McQueen
14 *Medical Treatment of Deep seated Hemorrhages Francis Hare
15 Rideal Walker Method of Testing Disinfectants with Special Reference to the Action of Formalin and Cyllin on the Plague Bacillus W J R Simpson and R T Hewlett
16 A Cause of Intestinal Obstruction After Gastroenterostomy H M W Gray

9 **Hernias of Children**—Corner discusses the pathology and treatment of the hernias of children and endeavors to throw light on the origination, the treatment, and the after effects on adults Childhood is the time when an operation has the best chance of curing a hernia, as then and then only is the

surgeon's skill aided by Nature in the subsequent growth of the subject For the treatment of the hernias of infants or children, he suggests the following Treat with dieting, rest in bed, if necessary, a light truss, and gray powder or the like, all hernias up to the age of four or five years The selection of this time is quite arbitrary and the proper age limit must be selected for each individual subject Female children can naturally be treated with more effective trusses than male Exceptions must be made from the following (a) large or uncontrollable hernias, (b) irreducible, perhaps difficult reducible or incarcerated, hernias, and (c) strangulated hernia In these it is better not to delay operative procedures Many of the difficult reducible hernias of children are caused by the cecum on the right side sliding into the hernia sac without a complete peritoneal investment This condition is called hernia en glissade At the age of four years, or thereabouts, all hernias of children should be submitted to operation unless there are special circumstances *Particular mention may be* made of (a) those with a congenital sac (the operation is now performed at the age of election) (b) those with an imperfectly descended testis and (c) those which have been and apparently will be persistent in character If more attention is paid to the diet and the persistence of abdominal distention of children the advisability or not of operative interference for all hernias in children which are persistent or of which the subjects are above the *age of 5*, the diagnosis between the acquired and congenital hernia sac, and *active* treatment adopted during childhood far fewer adults would be handicapped by hernia

14 **Medical Treatment of Deep Seated Hemorrhage** —Hare reduces the blood pressure in the bleeding area by promoting the fall of the general blood pressure through widespread vasodilation, and the administration of amyl nitrite by inhalation It is applicable not only to cases of hemorrhage from some part of the systemic circulation, but also to pulmonary hemorrhage Five consecutive attacks of hemoptysis occurring in four patients were all stopped instantaneously by amyl nitrite inhalation

The Practitioner, London

August

17 *A Note on the Treatment of Syphilis Jonathan Hutchinson
18 The Treatment of Some Forms of Anemia Nestor Tirard
19 A Case of Gastro-tetany T Gilman Moorhead
20 Observations on the Treatment of Neurasthenia Charles W Buckley
21 Progeria a Form of Senilism Hastings Gilford
22 Review of Recent Work on Blood Pressure John M Cowan
2" On the Present Status of Suprapubic Prostatectomy for Enlarged Prostate J W Thomson Walker

17 **Treatment of Syphilis** —Hutchinson describes a plan of treatment invariably pursued by him as follows A pill is prescribed containing 1 gr of gray powder and one of Dover's powder, and this the patient is to take after meals, and only three times a day at first If no diarrhea follows after a few days, the pill is to be given, four, five or six times a day All soups, fruit, and green vegetables are forbidden, and the patient is told that the treatment and the precautions must be continued without any intermission whatever for one year at least An alum mouth wash is ordered to prevent ptyalism The patient is allowed to continue his ordinary avocations, but is advised to spend as much time in bed as possible If there is debility, a grain of quinin is added to the pill Under this plan it is very rare to see any symptoms either in the throat or on the skin Hutchinson never begins the treatment until the character of the sore is definite In some cases it is necessary to send the patient to the seaside, and sometimes, when extensive ulceration is present, iodid of potassium is given in a fluid dose to be taken together with the mercurial pill He regards the iodids of mercury as much less manageable than are the two given separately As a rule the iodids are avoided in all early stages

Journal of Laryngology, Rhinology and Otology, London

August

24 Some Points in the Development of the Tympanic Plate and the Mastoid John Cleland
25 *The Treatment of Dullness of Hearing and Subjective Noises in the Ears by High Frequency Currents J G Connal
26 Suppurative Disease of the Temporal Bone with the Principal Extension Into the Petrous Portion Richard Lake
27 A Case of Tinnitus and Vertigo Treated by Division of the Auditory Nerve R H Parry
28 Résumé of Practical Deductions from Our Recent Knowledge of Suppuration of the Labyrinth Dundas Grant

25 **High Frequency Currents in Deafness** —Connal has studied the influence of high frequency currents in the treatment of dullness of hearing and subjective noises in the ear *In all the cases selected other methods of treatment were in*effectual *The cases were of a class not readily influenced by* ordinary methods of treatment The types selected were (1) chronic dry catarrh of the middle ear with secondary labyrinthine involvement, (2) chronic dry catarrh of the middle ear without marked labyrinthine involvement, (3) sclerosis of the middle ear, (4) post suppurative conditions of the middle ear (the purulent process having ceased) leaving a cicatrix or a dry perforation with or without calcareous deposit in the tympanic membrane, (5) primary labyrinthitis (traumatic), (6) tinnitus without dullness of hearing In all the cases both ears were involved, one ear generally being worse than the other Results 1 Six cases No improvement in the hearing in any *of them In four the tinnitus persisted* two thought the noises were slightly lessened, but were not sure about it 2 Fourteen cases In ten, no improvement in hearing, one was worse, two noted a slight improvement in the hearing One patient said she heard much better, but the improvement was not appreciable by any tests applied Of the ten patients who complained of tinnitus, eight reported an improvement, two of these said they were very much better In one case the noise disappeared entirely in one ear for six weeks, when it recurred 3 Five cases One patient said she heard better, but did not respond to tests, four reported an improvement *in the hearing* confirmed with the watch, and improvement *in the tinnitus* 4 Seven cases *Four reported a* slight improvement in hearing, *and four of five who had tin*nitus reported improvement 5 One case No benefit 6 One case No benefit The author urges the importance of technic in the electrical treatment of these cases The common method of applying the current is by means of the effleuve (or spray) This method was adopted in the earlier cases, but was found unsatisfactory The method of using a condensor electrode in each ear was substituted and gave better results probably because the current is more completely concentrated on the ears

Bulletin de l'Académie de Médecine, Paris.

30 (LXVIII, No 30) *Le mouvement méthodique dans le traitement des phlébites et des varices J Lucas Championnière
31 La stomatite ulcéro membraneuse épidemique envisagée au point de vue de la pathogénie et de la pathologie générale Kelsch
32 *Quelques faits rélatifs à l action thérapeutique du radium Raymond and Zimmern

30 **Treatment of Varicose Veins by Walking** —Marchais views on this subject were mentioned in THE JOURNAL recently page 287 He applies massage at first for two to four weeks This tones up the muscles and vessels and causes the absorption of the edema The varicose subject should not stand nor walk slowly What Marchais advises is a rapid walk, 100 steps to the minute, stopping short at the first *symptoms of* fatigue, then continuing when well rested *In case of recur*rence of pain or edema, *massage should be resumed. Elastic* stockings and hot baths should be *prohibited, but cold tonic* baths are useful *His results with 22 patients confirm the* efficacy of this *mode of treatment.* Lucas Championnière confirms *it, and applies the same* principle in the treatment of phlebitis after subsidence of fever He is convinced that immobilization favors embolism and cites 4 cases in his experience in which fatal embolism occurred during immobilization of a fracture He has his patients remain in bed after operations *for varices, but leaves the legs free* None of his patients with phlegmasia alba dolens is immobilized and all recover with surprising promptness

32 **Therapeutic Action of Radium** —Raymond and Zimmern have found that radium has a *remarkably soothing action on* the element of pain in certain nervous affections This effect

was particularly noticeable in tabes. The improvement and relief was marked after a few exposures. They found that the Roentgen rays also displayed great efficacy in this respect. They used a small quantity of pure radium bromid. No effect was perceptible in the merely functional neuroses. The results were also negative *in a case of facial paralysis and one of facial neuralgia* but in tabes, the lightning and lancinating pains *vanished as it by magic. In 4 tabetics thus treated* the application of the radium tube for four minutes banished the local pains.

Presse Medicale, Paris

33 (No 56) Slow Pulse and Hystero-traumatism. Debove—Pouls lent permanent et hystero-traumatisme.
34 Anatomie pathologique chirurgicale et diagnostic de la gangrène pulmonaire. Auvray.
35 *Les analyses chimiques d'urine. Interprétation et valeur sémiologique. M and H Labbé.
36 (No 57) *Influence des poussées phlébitiques sur les veines variqueuses. I Poulain.
37 Sur le diagnostic de l'hyperchlorhydrie par la recherche des matières amylacées solubles. H Surmont.
38 *Prophylaxie du tétanos par l'emploi du sérum antitétanique sec et pulvérisé. M Letulle.
39 (No 58) *L'intervention chirurgicale dans la gangrène pulmonaire, technique opératoire, résultats, indications. Auvray.
40 Autopsie de la moelle épinière. Instrumentation spéciale (dissection of spine). Chavigny.
41 (No 60) II Congrès de l'Association des médecins de langue française de l'Amérique du Nord (Montreal 28-30 Juin 1904). F Saint Jacques.
42 Discours du professeur Pozzi (address).
43 *Impressions d'Amérique. J L Faure.
44 (No 61) Abcès chauds du sein (mammary). Tillaux.
45 Prophylaxie du paludisme dans l'Isthme de Suez. A Pressat.
46 Quelques considérations sur la technique des lavages urétro-vésicaux. Melun.
47 (No 62) *Sur la pathogénie de l'hydronéphrose intermittente.* P [illegible].
48 *L'insuffisance langerhansienne. Thoinot and G Delamare.

35 **Chemical Analysis of the Urine.**—Labbé states that a rational interpretation of the findings in the urine is possible only when the intake of salt, etc, is known. No arbitrary standard can be established. To say that the amount of salt normally eliminated is 10 to 12 gm a day may happen to be true for a certain individual one day, but is liable to be erroneous the next day when he takes more milk than usual or his cook has been too generous with her seasonings. The chemical findings are of import only when the ingesta and the excreta are compared. A healthy individual normally eliminates exactly as much material as he takes in. The human machine is only a transformer of energy. The salts and the nitrogen are found in the urine in approximately the same proportions in which they were ingested. Analysis of the urine imparts *no information in regard to* the carbohydrates and fats, the products of whose final transformation are eliminated by the lungs.

36 **Cure of Varicose Veins by Intercurrent Phlebitis.**—Poulain has observed a case in which the varicose saphena vanished as a result *of a grippal phlebitis.* The indurated vein was replaced by a groove perceptible to the eye. The leg presents occasionally slight *edema near* the ankle, it tires more readily during a long walk, and there is once in a while some formication. *These are the only traces left of the extensive* varicose enlargement and severe phlebitis. The complete obliteration of the superficial veins seemed to have a favorable influence in this case.

38 **Prophylaxis of Tetanus with Pulverized Serum.**—Letulle washes out *the wound* with boiled water for fifteen minutes and then dusts it thick with dried, pulverized antitetanus serum and covers with gauze. This treatment is repeated every day until healing is complete. This mode of prophylaxis is called the "Calmette method" and *Letulle urges its general* adoption.

39 **Surgical Treatment of Gangrene of the Lungs.**—Auvray reviews *the international* literature on the subject and states that the post-operative mortality has been only 40 per cent *in the last series of 63 cases of gangrene of the lungs treated* by surgical intervention. Tuffier's last 11 cases have had a mortality of only 36 per cent. *The operative mortality* is less in case of gangrene consecutive to pneumonia or bronchitis or their combination than when it is consecutive *to bronchiectasia,* foreign bodies, wounds, embolism or perforation of the esophagus. Patients seen again *a few years afterward have* been found normal or, in a few instances, the shape of the thorax was *somewhat altered* and respiration slightly affected. The remote results depend, of course, on the character of the causal affection, a chronic process seldom permitting complete restitution. With such a process both lungs are usually more or less degenerated. Treatment should be early and extensive pneumotomy.

43 **Impressions of America.**—In this interesting summary of his hurried trip through America, *including Quebec* and Mexico, Faure comments on the famous marble operating room at Mount Sinai Hospital, New York, as the handsomest he has ever seen with its marble doors, but as a useless prodigality. He does not think the American operating tables compare favorably with the French, while the American instruments for general surgery and gynecology impressed him as heavy, primitive and sometimes even coarse. He says that instruments of this kind, to be delicate, supple and strong, have to be made by artists working with brain as well as hand and can not be turned out by machinery. He makes the statement that in America "the free hospital—*the hospital for the* poor—does not exist, perhaps because there are not many *poor people, or at least everyone from the richest to the* poorest considers it natural and legitimate to pay for the care he receives and the time devoted to him. Another reason may be that the towns are, many of them, too new for an official 'assistance publique' to have been organized." He comments with decided approval on the system of having rooms for rich paying patients under the same roof with free wards, a custom which he hopes will be introduced in France. The union of hospitals with politics here he qualifies as deplorable, much preferring the French system of *competitive examinations* with all its defects.

48 **Langerhans Insufficiency.**—Lesions in the islands of Langerhans have been found in 150 out of 167 diabetics examined from this point of view. Thoinot and Delamare found them in their cases of lean diabetes, not in the 'fat' variety, nor in the pancreas of 10 control subjects with various affections. They are not found in nervous diabetes nor in toxic glycosuria. These lesions are frequently associated with lesions of the other parts of the gland, but are sometimes the only lesions to be detected. The explanations offered by various writers do not withstand scrutiny except the theory that certain cases of diabetes are the manifestation of insufficiency *of these islands of Langerhans. This suggests the possibility* of an effectual organ treatment of such cases, using an extract of the tail of the pancreas from young animals.

Berliner Klinische Wochenschrift

49 (XLI, No 21) *The New Academy for Practical Medicine at Cologne. O Minkowski—Zur Eröffnung der Akademie für praktische Medizin in Cöln.
51 *Freezing Point of the Blood in Cancer Subjects. K Engel (Koranyi's clinic, Budapest).—Ueber die Gefrierpunktserniedrigung des Blutes bei Krebskranken.
52 Atheromatosis aortae bei Kaninchen nach intravenösen Adrenalin-Injectionen (in rabbits). C v Rzentkowski.
53 Rare Family Nervous Affection. O Maas.—Ueber ein selten beschriebenes familiäres Nervenleiden.
54 Elektromagnetische Therapie. C Lilienfeld.

49 **The "Academy for Practical Medicine" at Cologne.**—An important innovation has been introduced into Germany in the inauguration of these new "academies." They are *intended* to serve as centers for postgraduate instruction. Cologne leads, but will soon be followed by Frankfort, Düsseldorf and other *cities* where there is no university. The innovation is regarded with some apprehension by the general practitioner, fearing that it *may* cut into his sphere of activity, but the city authorities affirm that they were impelled to this step by the interests of *the* medical profession *and* by the growing conviction of the importance of this profession for the general welfare. These convictions have impelled the city authorities to exact contributions from their fellow citizens in order to promote the further professional perfecting of physicians that they may better serve the general welfare. The aim of the new "academies" is to utilize for postgraduate instruction the vast material in the hospitals no [illegible]

to waste in many of the cities They do not aim to train specialists, but they hope to render the general practitioner proficient in the specialties The plan of organization tentatively adopted has four departments in view the training of newly fledged M D's during their compulsory year as "praktikants," postgraduate training of established physicians, training in specialties, and promotion of scientific research

51 **Freezing-Point of Blood in Cancer Subjects** —Engel did not find the molecular concentration of the blood abnormal in any of the cancer subjects examined

Centralblatt f Chirurgie, Leipsic

55 (XXXI No 31) Zur Mitteilung Ueber plastische Wanderlappen (migrating flaps) von Hacker (Graz) Claim for priority

Centralblatt f Gynakologie, Leipsic

56 (XXVIII No 21) *Prevention of Puerperal Fever P Zweifel —Ueber die Verhütung der Fieberfälle im Wochenbett
57 *Intraperitoneale Ligamentverkurzung mit ausschliesslicher Verwendung von Catgut als Fixations Material Menge
58 *Physostigmin nach Laparotomien K Vogel (Bonn)
59 (No 22) Proportions Between Sexes Born B S Schultze (Jena) —Zum Problem vom Geschlechtsverhältnis der Geborenen
60 *Vulva Edem und Dammriss (laceration of perineum) A Sittner
61 (No 23) Ueber die pathologische Histologie der Oophoritis chronica C Pinto
62 *Graviditäts Psychose Abortus provocatus Genesung H Treub (Amsterdam)
63 (No 24) Studien zur Physiologie des Uterus K Franz
64 *2 neue Fälle von Restitutio vaginæ per transplantationem ani et recti W E Sneguireff (Moscow)
65 (No 25) *Zur Lagerung der Arme in der Narkose Torggler and R Puschnig
66 *Weighted Compresses Burcher and O Rossel Plombierung um das Zurucklassen von Tüchern in der Bauchhohle bei Laparotomien zu vermeiden
67 *Zur Laparotomie-Technik S Gottschalk
68 Zur Publikation Eine modifizierte Kugelzange von O Frankl Peters
69 (No 26) *Prevention of Fever in Parturients A Mueller Ibid. W Bokelmann
70 Fall von abnorm langer Retention des am normalen Schwangerschaftsende abgestorbenen Foetus I Goldenstein (Jassy) Four months retention No disturbances
71 (No 27) *Schonende oder forcierte Entbindung bei Eklampsie (expectant or forcible delivery) A Sippel
72 *Button Guide for Puncture Canula S Platau (Nuremberg) —Zur Erleichterung der Punktion von der Vagina aus
73 Vaginal Cesarean Section for Placenta Prævia S Dührssen (Berlin) (Reply to articles in No 20)
74 (No 28) *Zur prophylaxe der postoperativen Cystitis bei Frauen P J Israel and P Rosenstein
75 Doppelseitige Ovariotomie im Anfange der Gravidität Ausgetragenes Kind I Essen Möller (Lund)
76 New Examining Sofa de Seigneux (Geneva) —Ein neuer Untersuchungs Divan
77 (No 29) *Reply to Menge in No 21 I Kleinwächter
78 *Zur Wahrung meiner Priorität K Beck (New York) See abstract 74 on page 686 vol xlii
79 Spontane Ventrofixation des Uterus als Ursache schwerer Nachgeburtsstörungen O Fuchs (Breslau)
80 *Ueber ein einfaches Verfahren zur sicheren Katheter Sterilisierung W J Gusseff (Moscow)
81 (No 30) *Zur Hebotomie T H van de Velde (Harlem)
82 (No 31) Zur Behandlung der postoperativen Darm Paralyse mit Physostigmin Pankow (Jena) Negative results from preventive treatment of intestinal paralysis

56 **Prevention of Fever in Parturients** —Zweifel shows that all the modern efforts for asepsis in maternity cases have not resulted in any decrease in the number of febrile cases The mortality has been wonderfully reduced, but the number of patients developing fever has not been materially diminished He thinks that the principles of surgery should be applied more to obstetrics, especially the principle of wiping the parts dry of blood He noticed that one or two small clots of blood usually lurk in the recesses of the vagina, and thinks that decomposition of these clots is sufficient to explain the febrile course If a woman is examined half an hour to an hour after delivery of the after birth, one or two clots as large as a walnut, will almost invariably be discovered in the fornix vaginæ He removes these clots with a dry sponge as they are in any event entirely superfluous and may cause trouble as they decay All his lying in patients have been wiped dry in this way since last October, the operation done with rubber gloves The percentage of febrile cases dropped at once after this innovation was introduced so that in 94.3 per cent of all the normal maternity cases the temperature was normal throughout a result never before attained There were only 14 febrile cases in 243 births and, in fact, only 3.3 per cent developed fever which could be attributed to the genital tract out of the total 5.7 per cent febrile cases During the few weeks in which the vagina was wiped dry without gloves the proportion of febrile cases increased During previous years the proportion of febrile cases has ranged from 32 per cent in 1890 to 21.4 per cent in 1901, and 16.2 per cent in 1903, the average for the nineties being 28.34 per cent and from 1899 to 1903, 19 per cent The reduction since 1899 followed the introduction of gloves The pathogenic germs can readily find their way from without to these clots lurking in the vagina, and might easily originate fatal infection in them Hence it follows that the wiping away of all clots of blood should be regarded as one of the routine prophylactic measures in maternity cases It should always be done under dry asepsis, and by the physician Zweifel adds that irrigation of the vagina before or during delivery is always superfluous and liable to be dangerous, but this dry wiping away of the blood is an important, decided forward stride in the prevention of puerperal fever

57 **Intraperitoneal Shortening of the Ligaments with Catgut** —Menge considers every backward displacement of the uterus as necessarily pathologic He fastens the uterus in an approximately normal position by taking up a loop in each round ligament and suturing this loop with a row of stitches down the middle to make it solid He then brings the ends of the loops together and sutures them firmly to the uterus underneath The loop is taken in the part of the ligament close to the uterus, and a single fine catgut thread is sufficient to insure solid fixation The operation is particularly useful after wedge shaped excision of the tubes the loops of the ligaments being folded over the wound in raw surfaces The technic is fully illustrated

58 **Physostigmin After Laparotomies** —Vogel's experience with physostigmin as a preventive of post operative ileus has been very favorable He has been using it for three years injecting .0004 gm physostigmin three or four times during the day giving the first injection before the patient leaves the table, and supplementing it later with a glycerin enema if necessary When ileus has developed the physostigmin may be tried but should not be forced

60 **Vulvar Edema and Laceration of Perineum** —Sittner explains edema of the vulva as a natural process to protect the perineum against laceration The vulvar ring is enlarged and the tissues become more elastic

62 **Gravidal Psychosis Cured by Induced Abortion** —Treub's patient was a ii para in the fourth month She had been reading Victor Hugo's 'Notre Dame de Paris,' and had become convinced that the child she was bearing would prove to be a monster Her psychosis was so pronounced that she tried to commit suicide to destroy the monster, and Treub finally induced abortion which was followed by complete recovery

64 **Restitution of Vagina by Transplantation of Anus and Rectum** —Twelve years ago Sneguireff reported a case of this kind The result of the operation was complete and permanent Coitus has been rendered apparently normal and the artificial anus made in the place of the excised coccyx functionates normally He does not know of anyone's having repeated the operation, but its perfect success encouraged him to try it again in 2 cases during the last year or so in which it was indicated The patients were young married women who had never menstruated although the molimen recurred regularly and one had vicarious epistaxis This one applied immediately after her marriage to know why coitus was not possible In the other patient the urethra had been used unwittingly in place of the vagina and she applied only for relief from a laceration of the urethra The vagina in each case was merely an inch deep recess The operation was done under ether the coccyx was removed the rectum was mobilized brought out through the incision and cut across The edges of the lower stump were turned in and sutured together to make the top of the new vagina The proximal stump was sutured to the skin embedded in the muscles in such a way that the fibers of the levator ani co operated in the functioning of the new anus which was in fact the sphincter ani tertiu

The pelvis was then raised, and through the natural anus the wall dividing the rectum and anus from the vagina was incised, the mucosa lining of the vagina was sutured to the mucosa lining of the rectum and anus. The incised anus thus sutured to the small orifice of the vagina presented a striking resemblance to normal aspect and conditions. Defecation was suppressed for six days, then castor oil was given and the sutures removed. The new anus was incontinent at first, but after a month formed feces could be retained and evacuated at will in the first case, and in less than three weeks in the other. The results of the operation have realized all that was anticipated. The three steps of the operation are shown in diagrams.

65. **Management of the Arms During Narcosis.**—In all vaginal operations Torggler crosses the arms of the patient on her breast, the hands touching the elbows, and draws up the front of the chemise over them, tucking it in above the arms. This holds them and prevents nerve paralysis from compression at any point. During ten years of experience he has had but a single chloroform death in 806 narcoses, and this was a purely heart accident occurring before the narcosis had really commenced.

66. **Weighting the Compresses for Laparotomies.**—Bircher fastens a small weight—2.5 to 3 gm.—to one corner of each compress, using a stout linen thread for the purpose, about a foot long. As the compress is used in the abdominal cavity, the weight is tossed to the length of the string and lies on the operating sheet. He has been using this device for ten years and has never failed to recognize and remove every compress without dread of any having been left inside. He criticises Kreutzmann's method as too laborious and time wasting.

67. **Laparotomy Technic.**—Gottschalk advocates in operating to draw the tumor or organ being operated on out of the abdominal wound and close the incision behind it as far as possible. The weight of the tumor will aid in detaching it. He insists that the surgeon should ask himself in every case whether it is not possible to close the abdominal cavity as soon as the tumor is drawn out instead of waiting until later. Also that the operation should be done outside of the abdominal cavity as far as possible. He describes in detail a case of myomotomy with amputation in the collum performed under these principles. They obviate the necessity for raising the pelvis.

69. **Prevention of Puerperal Fever.**—Mueller endorses Zweifel's remarks, cited above. He goes still further and advocates removal of all clots of blood from the uterus itself, as well as from the vagina. He accomplishes this with what he calls a "scraping rinsing catheter." It consists of a stout metal tube, the tip surrounded by a comb with wedge shaped incisions, the outer edges slightly rough like a file. By twisting this tube, in contact with the walls of the uterus, all the clots of blood and scraps of membranes are detached from the walls of the uterus and swept out by a stream of hot water turned on through the tube. The instrument thus combines the removal of all scraps and clots liable to decay, with mechanical stimulation, and the action of heat in the hot rinsing. He has been using it for three years and has been delighted with it. He has not had occasion to tampon the uterus on account of hemorrhage or apply compression, except in a few rare instances since he has been using this scraper. He adds that puerperal fever is sometimes due to decay of fecal masses, and advises energetic castor oil purges and repeated high enemata as a means of preventing infection from this source. He classifies his febrile cases as those which can be cured by energetic purgation and those with fetid lochia which can be cured by energetic rinsing of the uterus. The class of cases which do not respond to these measures are the true septic puerperal fevers, due to some primary, previously existing pus focus in the appendix, annexes or elsewhere, which has been encapsulated and caused no trouble until disturbed and the walls broken down by the trauma of the birth act, or else to infection from without, due to the attendants or the patient herself. This latter cause is becoming rarer and rarer under modern methods. The physician should seek to discover and render harmless the primary focus, possibly resorting to intravenous silver injections according to Credé.

Bokelmann discusses the same subject but denounces Zweifel's views. He proclaims that the parturient woman should be regarded as a *noli me tangere*, and that the application of the principles of modern surgery to the physiologic process of childbirth is liable to be attended by the most serious consequences. He thinks that dry asepsis is unattainable in the normal vagina after delivery, while attempts to realize it throw wide the portals for infection. His motto is "The strictest asepsis for everything that comes in contact with the birth passages and strictest avoidance of every contact with the birth canal not absolutely required."

71. **Delivery in Eclampsia.**—Sippel has always been an advocate of expectant treatment of eclampsia, but his recent experience has converted him to the opposite view. He now proclaims that there is only one thing yet known positively in regard to eclampsia, and that is, that it is a consequence, a product of pregnancy. This being the case, the logical treatment is to remove the cause, that is, to put an end to the pregnancy.

72. **To Facilitate Puncture Through the Vagina.**—Flatau uses what he calls a "guide button" on the canula to protect the parts from injury. It is an elliptical, elastic ball which is placed over the tip of the canula. When the latter is forced into the tissues the ball slips back on the canula.

74. **Prevention of Postoperative Cystitis.**—The double catheter used in Israel's clinic is made in such a way that the inner tube does not come in contact with the walls of the urethra at any point, as it is not pushed out of the outer tube until the latter reaches the entrance into the bladder. It is thus possible to rinse out the bladder as frequently as deemed necessary, without fear of infection. In 34 cases of serious operations the bladder was thus rinsed from 6 to 21 times without a single mishap with the exception of one case, in which the vitality of the bladder had already been seriously compromised. He does not attempt to enumerate the cases in which the double catheter was used less than 5 times. He thinks that this principle of absolute asepsis and frequent irrigation is the right one for the prevention of post operative cystitis.

77 and 78. **Intraperitoneal Shortening of the Ligaments.**—Kleinwächter criticises Menge very sharply for announcing as new the method of surgical treatment of retrodisplacement of the uterus briefly outlined in abstract 57 above. Kleinwächter reproduces the cut from Palmer Dudley's article, published fourteen years ago, in which the latter describes what is essentially the same operation. The only difference seems to be in favor of Dudley's technic, namely, that a larger surface is freshened. Kleinwächter sarcastically comments that it is usually expected that a specialist and especially a professor should be thoroughly posted in the history and literature of his specialty. Professor Menge, he adds, is proof of the fact that there are exceptions to this rule. In the following article Beck of New York claims priority for the operation recently promulgated by Bardescu, mentioned on page 686 of the last volume.

80. **Sterilization of Catheters.**—Gusseff uses an ordinary nickel tube to hold the catheter. One end has four holes bored through it, through which 2 wires are passed at right angles, forming a support for a wad of cotton which keeps the catheter from dropping out. The other end of the tube is stoppered with cotton. These tubes are inexpensive, never break or wear out, and there has not been a single case of infection in more than 4,000 catheterizations in which the catheters were sterilized in these tubes. A dozen or so of the tubes at a time are placed in the autoclave together. After the catheter is used, it is boiled in soda solution with the tube, fresh cotton is put in, then the catheter and the stoppered tube is placed in the autoclave.

81. **Hebotomy or Extramedian Symphyseotomy.**—The particulars of the 4 cases in which van de Velde has performed this new kind of symphyseotomy are related in detail. He

styles the operation extremely simple, typical, rational, convenient, with little trouble for the patient, a really ideal operation, and the only one able to save the child alive in many cases" One of his first patients has passed since through a normal pregnancy and delivery, the pelvis having been so enlarged by the hebotomy that delivery proceeded normally The operation has not affected the gait in any instance He coins the word hebotomy from the Greek term for pubis The previous notices of the operation will be found on page 133 of vol xl and 231 of vol xxxix

Therapie der Gegenwart, Berlin

Last indexed page 436

83 (XLV No 8) *Treatment of Tendency to Kidney Stone Formation G Klemperer—Die Behandlung der Nierenstein Krankheit
84 *Local Hot Air in Treatment. M Jerusalem.—Einiges über lokale Wärmebehandlung
85 Die mechanische Behandlung des Emphysems H Wolf.
86 Critical Review of Recent Publications on Infant Feeding H Finkelstein—Sammelreferat.

83 **Treatment of Tendency to Kidney Stone Formation**—Klemperer believes that it is possible to prevent stone formation in the kidneys by appropriate dieting When dieting is inconvenient the same results can be attained with alkaline mineral waters used copiously, or even with artificial substitutes for the mineral waters He tabulates the results of a number of clinical and experimental researches which sustain these assertions in regard to urate concrements The oxalates are dissolved when 2 gm magnesium sulphate are given once or twice a day with a mixed diet. He advises giving 5 magnesium sulphate four times a day when vegetables or milk or eggs are being copiously eaten This serves to prevent oxalate crystallization. Mineral waters are also useful but by no means to the same extent as with the urates Phosphate concretions are generally due to overexcitability of the nervous system, entailing gastric hyperacidity His researches have also shown that already formed concrements can be dissolved by the copious use of mineral waters A course at a watering place is not at all necessary if the required hygiene is followed at home In any event, the hygienic and other measures must be kept up for years or one's entire life, to ward off threatening trouble from this source Cystin stones are the expression of a constitutional anomaly in the metabolism, like diabetes and the tendency to their formation should be combated by the usual measures and restricting the albuminoids in the diet to such as contain little, if any, preformed cystin Egg and plant albumin contains much less cystin than serum albumin and fibrin

84 **Local Application of Heat**—Jerusalem relates his favorable experiences with dry hot air applied to the treatment of erysipelas and streptococcic phlegmons He thinks cold applications are contraindicated in case of inflammation, citing Bier, who proclaims that cold applications are liable to transform an acute and curable process into a chronic, incurable one Warmth is always agreeable in case of inflammation, and is actually the best analgetic at our command It has also displayed remarkable power as an analeptic and absorbent Thermophore compresses are the most convenient, but heated dry cloths or bags of sand are equally efficient Phlegmons on the limbs have been effectually treated with prolonged local baths as hot as the patient can bear

Wiener klinische Rundschau

Last indexed page 577

87 (XVIII No 20) *Die röntgenologische Untersuchung der Schädel Basis (of skull) A Schüller and J Robinsohn
88 (No 29) *Ueber den Einfluss der Credé schen Silber Therapie auf die den Tuberkel Bazillus begleitenden Bakterien M Behr
89 *Surgery and Alcoholism O Polak—Ueber die Beziehungen des Alkoholismus zur Chirurgie (Commenced in No 26)
90 (No 30) Die Prokto-Sigmoideskopie F Schilling
91 (No 31) *Comparative Value of Natural and Artificial Infant Feeding for Animals H Brüning (Leipsic)—Vergleichende Studien über den Wert der natürlichen und künstlichen Säuglingsernährung bei Tieren

87 **Roentgen Views of the Base of the Skull.**—All the parts of the base can be skiagraphed, but they require frontal, sagittal axial or oblique exposures for varying conditions Most of the anomalies in this region show up well and Roentgen examination is a valuable aid in diagnosis Two fine nearly life size skiagraphs are given, one of a normal and the other of a cretin man The differences are striking and characteristic

88 **Influence of Collargol on Bacteria Accompanying Tubercle Bacilli**—Behr writes from a tuberculosis sanatorium to describe his experiences with 14 cases of tuberculosis treated with collargol to control the mixed infection He was impressed with the way in which the pyogenic germs accompanying the tubercle bacilli were influenced by the collargol, which displayed marked therapeutic action in this respect The tuberculous process was also favorably influenced, but as this result is always obtained in the sanatorium, he does not venture to ascribe the benefit in this respect to the collargol Further tests in this direction should be instituted in dispensary treatment of tuberculosis where the patients remain in their usual environment In 7 out of 10 patients the number of cocci in the sputa was found very much reduced, the sputa also diminished He administered the collargol by the mouth and rectum buying 100 gm in substance and dissolving it in distilled water to make a 1 per cent solution He gave one tablespoonful of this twice a day, supplemented by 30 c c given per rectum Each patient thus received 5 gm silver per diem This was kept up for one to eight weeks in 14 cases with an average of seven weeks, or 110 days

89 **Relations of Alcoholism to Surgery**—Polak remarks that the number of drunkards is comparatively limited in Bohemia, the official records showing only 4 to each thousand inhabitants Nelson's figures report 1 to each 145 inhabitants in England Polak argues that the surgeon must be versed in the detection of acute and chronic alcoholism, as it has such a marked influence on the outcome of his work, and he should know how to combat it If a very tipsy subject requires surgical intervention at once, he should be prepared by copious lavage of the stomach, caffein in case of weak heart action and, in case of insufficient respiration, it should be promoted artificially and 002 gm atropin be injected several times Tepid baths with cold water poured on the head and back of the neck are also useful In chronic alcoholism the surgeon has to distinguish between the three stages In the first he has to anticipate only a somewhat severer and stormier narcosis, and the tendency to fat in the subcutaneous tissue sometimes interferes with primary healing The last stage, the 'premature senile" stage, is a contraindication to any major operation, as body and mind are too much countermined In the middle stage the resisting powers are weakened Narcosis of such a subject is likely to be a difficult affair, but it sometimes happens that after such a subject is once fully narcotized the operation can be continued without further use of the narcotic, as he lies tranquil without experiencing any special pain Polak reviews the experiences with alcoholics at Maydl's clinic at Prague He found that the wound suppurated in 7 per cent more of the alcoholic subjects than in the others and the mortality among them was greater, gangrene claiming 31 8 per cent , abscesses and phlegmons, 35 7, and erysipelas, 14 per cent., while the corresponding mortality among the non drinkers was from gangrene, 17 per cent abscesses 7 9 and erysipelas, 9 per cent. These infectious febrile suppurative processes are especially hard on drinkers A trophoneurotic hemorrhagic bladder affection was noted in one and the bones were found more fragile in them Fat embolism occurred in 2 He regards large doses of strychnin as the most approved means of curing the psychosis underlying dipsomania, citing Portugalow's experience of 455 drunkards cured with strychnin Delirium tremens is frequently brought on by traumatism and is always a very serious complication even with slight surgical injuries and operations

91 **Artificial Feeding of the Young of Animals.**—An interesting series of researches are here described showing the growth of young goats fed with sterilized milk according to the rules of infant feeding The various particulars are tabulated and compared with the growth of normal suckling kids The results confirm the theoretical views in regard to the incomparable superiority of the mother's milk for the growth of the young

Brazil Medico, Rio de Janeiro

Last indexed page 232

92 (XVIII No 21) *Treatment of Yellow Fever by Anti Ophidic Serum Bettencourt Rodrigues
93 (No 22) Hematologia da febre amarella (yellow fever) A A de Azevedo Sodre
94 (No 23) *Frequencia do cancer no Brazil Ibid
95 (No 24) A paranoia e os syndromas paranoides F Moreira and A Peixoto (First part in No 21)
96 Congestoes e apoplexias A de Mello
97 Contribuicao ao estudo da ataxia locomotora progressiva Papadopoulos
98 (No 25) Conferencia sanitaria internacional See notice page 112
99 (No 26) Theoria da immunidad J Mendez
100 Contribuicao ao estudo da bouba brasiliana (endemic ulcer) J Moreira and A Austregesilo (Commenced in No 25)
101 (No 27) Prophylaxia publica da syphilis e enfermidades venereas A Peixoto
102 *Um novo antidiabetico O de Freitas (Pernambuco)
10 Festival Meeting of Academia Nacional de Medicina 75th Anniversary See notice page 617

92 **Treatment of Yellow Fever with Anti-ophidic Serum** — Rodrigues statements in regard to the efficacy of treatment of yellow fever with a serum made to combat the bites of poisonous snakes of Brazil have not been confirmed by the experiences of others Carlos Seidl and Marchoux and Simond gave the method a trial but met with negative results The first to suggest serum treatment of yellow fever was Professor Miguel Couto of Rio who treated several yellow fever patients with serum from convalescents His communication on the subject was published in the *Brazil Medico* of April 22 1892 Rodrigues reports rapid recovery of 21 yellow fever patients with but one exception under treatment with anticrotalic and antibothropic serum

94 **Cancer in Brazil** —This article by Professor Sodre, editor of the *Brazil Medico,* was presented at the recent Latin American Congress His figures show that cancer is comparatively rare in Brazil although at certain points the number of cases has increased during the last few years There is an unmistakable connection between the frequency of cancer in Brazil and the climate the number of cases varying with the latitude In the extreme north the equatorial portion of the country cancer is exceptional The number of cases increases toward the tropic of Capricorn and reaches its maximum in the extreme south where the climate approximates that of the European Mediterranean countries In Brazil cancer locates with marked predilection in the uterus Stomach and liver cancers are very much less frequent He gives a comparative table of the mortality from malignant disease in various cities of the world per 10 000 inhabitants In Paris this proportion was 11 8 in London 6 8 in Boston 7 9 in New York 6 2 while in Bahia it was only 1 9, and in the most affected center Rio de Janeiro only 2 8 In other tables he gives the same figures for the countries France heading the list with 9 8 per 10 000 inhabitants England with 7 6 United States 3 4 Tasmania 5 New Zealand 4 4 and Brazil 0 41

102 **New Remedy for Diabetes** —De Freitas announces that an indigenous tree the ironwood, has remarkable anti diabetic properties He uses an alcoholic tincture of the inner bark and reports its success in 8 cases of diabetes with sugar in amounts of 15 26 and 30 gm or thereabouts in the urine Examination a few days after taking the "pao ferro" showed entire absence of sugar in every instance The scientific name of the tree is the *Dialium ferrum* The uniformity of action observed in the 8 cases the complete cure and its permanence to date compel him to publish his results without waiting for further confirmation

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Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY with an Introductory Section on Postmortem Examinations and the Methods of Preserving and Examining Diseased Tissues By Francis Delafield M D LL D Emeritus Professor of the Practice of Medicine College of P and S Columbia University, New York, and T Mitchell Prudden M D LL D Professor of Pathology and Director of the Department of Pathology, College of P and S Columbia University New York Seventh Edition With 13 Full page Plates and 545 Illustrations in the Text in Black and Colors Cloth Pp 885 Price $5 00 net New York Wm Wood & Co 1904

THE PRACTICE OF OBSTETRICS Designed for the Use of Students and Practitioners of Medicine By J Clifton Edgar Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College Second Edition Revised With 1 264 Illustrations Including 5 Colored Plates and 38 Figures Printed in Colors Cloth Pp 1 172 Price $6 00 Philadelphia P Blakiston's Son & Co 1904

A TEXT BOOK OF ALKALOIDAL THERAPEUTICS Being a Condensed Resume of All Available Literature on the Subject of the Active Principles Added to the Personal Experience of the Authors By W F Waugh M D and W C Abbott M D with the Collaboration of E M Epstein M D Cloth Pp 405 Price $2 50 post paid Chicago The Clinic Publishing Co 1904

A MANUAL AND ATLAS OF MEDICAL OPHTHALMOSCOPY By Sir William R Gowers M D F R C P, F R S Fourth Edition Edited by the Author and Marcus Gunn M B F R C S Surgeon to the Royal London Ophthalmic Hospital Cloth Pp 318 Price, $4 00 net Philadelphia P Blakiston's Son & Co 1904

CLINICAL LECTURES ON MENTAL DISEASES By T S Clouston M D Edin F R C P E President of the Royal College of Physicians of Edinburgh Sixth Edition Cloth Pp 738 Price $4 25 Philadelphia and New York Lea Brothers & Co 1904

CLINICAL URINOLOGY By Alfred C Croftan Professor of Medicine Chicago Post Graduate Medical College and Hospital Illustrated Cloth Pp 298 Price $2 50 net New York Wm Wood & Co 1904

TRANSACTIONS OF THE SEVENTY FIRST ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION Chattanooga 1904 Cloth Pp 122 Press of Southern Publishing Association, Nashville Tenn

TRANSACTIONS OF THE ARKANSAS MEDICAL SOCIETY Twenty ninth Annual Session Held at Texarkana Ark May 3, 4 and 5 1904 Cloth Pp 78 Press of Arkansas Democrat Co Little Rock

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NEW PATENTS

Patents recently granted that are of interest to physicians

765138	Pocket pill safe John W Acker St. Louis
765469	Shade for x-ray tubes Robert Friedlander, Chicago
765470	Electric therapeutic apparatus Robert Friedlander, Chicago
765472	Hygienic medicated belt Thomas O Gasaway and J S Aydelotte Ind
765361	Device for eradicating facial wrinkles Wm B Hargrave Colfax Wash
765389	Operating table Florus F Lawrence Columbus Ohio
765293	Truss Henry B Morris Midvale N J
765369	Stretcher Elphinstone M Smith and J Ferrin Oakland Cal
765560	Medical battery George F Webb Geneva Ohio
765261	Suspensory Wm S Wise St Louis
766135	Microtome Edward Bausch and G Hommel Rochester N Y
765879	Dilator Wilber A K Campbell Chicago
766106	Vaginal syringe Hubert T Foote New Rochelle N Y
765887	Otoscope Peter T Geyerman Brewster Minn
765733	Bandage rest Wm S Hubbard New York
765898	Extracting soluble albumen from milk Charles Lewis, Toronto Canada
765746	Massage apparatus Walter Miner Creston Iowa
765984	Foot for crutches or canes John W Morris and G J Luck Milwaukee Wis
766057	Spring forceps John Muller Brooklyn
765793	Surgical bridge John F Ruckel Chicago
766069	Means for facilitating internal flushing or syringing John D Sourwine, Brazil Ind
766121	Holder for serums Frederick K Stearns Detroit
765943	Making a substitute for cod liver oil Karl F Tollner Bremen Germany
765690	Apparatus for producing gyratory magnetic lines of force for therapeutic purposes Rheinhold Traub, Hombrechtikon near Zurich Switzerland
766336	Vaginal irrigator Charles O Farrington Palestine, Tex
766686	Artificial limb Alexander Gault Medford Minn
766688	Bottle stopper and dropper Wm T Goldsmith, Washington D C
766344	Packaging of medicines for hypodermic purposes Herman H Hager Detroit
766367	Cheek plumper Olive L Mayes Evanston Wyo
766720	Clinical thermometer Christian W Meinecke Jersey City N J
766523	Pasteurizing apparatus Alban H Reid Philadelphia
766743	Physical exerciser and developer Alfred E Ferry Redditch England
766203	Hypodermic syringe Ralph Walsh Washington, D C
766204	Hypodermic syringe Ralph Walsh Washington, D C
766863	Body brace Joel U Adams Cincinnati
766867	Inhaler for anesthetics George L Bennett Chicago
767201	Artificial arm Joseph V Bennett Huntsville Mo
767334	Optical testing instrument Ernest Elmer Muskegon Mich
767233	Druggists label holder Newton W McCourt and G W McAllister Bradford Pa.
766960	Optometer Harry C Paul Chicago
766897	Massage machine Charles Pfanschmidt Chicago
766970	Massage machine Charles Pfanschmidt Chicago
766842	Antiseptic wall paper Edward E Pray Plainfield, N J
767124	Hygienic amusement bath and swimming school Claeborn P Randolph Los Angeles Cal
767015	Electric therapeutic machine Harry A Slaughter, Los Angeles, Cal

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Address.

REMARKS ON ADVANCES IN GYNECOLOGY DURING THE LAST YEAR, SENILE ENDOMETRITIS

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN AT THE FIFTY FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY N J JUNE 7 10 1904

L H DUNNING, M D

INDIANAPOLIS

Before beginning my address, I desire to thank the members of the Section and to express to them my high appreciation of the honor they have conferred on me in electing me chairman of the Section for the year Mindful of the obligations resting on the chairman of this Section, I have used my best endeavor to advance the interest of the Section, and to assist in the preparation for this session of a program worthy of the occasion

If we have succeeded in this endeavor, a large share of the credit must be accorded to our secretary, Dr C L Bonifield His labors have been faithfully and efficiently performed, with perseverance and cheerfulness I commend his example to all future secretaries It will be observed on perusal of our printed program that we have been able to obtain twelve papers on obstetric subjects, besides several others which have an indirect bearing on the same subject For valuable suggestions relating to the arrangement of the program and assistance in obtaining obstetric papers, I wish to thank our esteemed member, Dr C S Bacon

THE PROGRESS OF GYNECOLOGY

It is not my purpose to indulge in extended remarks on the progress of gynecology during the last year, as master minds have already successfully undertaken the task of writing its history One seeming fact has impressed itself on me as I have studied this history It is that there has been less published than usual, during the year, relating to new operative procedures The year seems to me to have been one in which a large amount of successful surgery has been done, but one in which the struggle has been to seek out and find the best indications and methods There has been also much earnest effort to solve some of the difficult questions of etiology and pathology as they relate to diseases of women

These are right tendencies, and will assuredly appeal to right-minded persons everywhere There are still many difficult and important questions demanding solution at our hands, and it seems to the writer not inappropriate to indicate a few of them at this time Those mentioned may not be the most important but are such as have forced themselves on me during the progress of many years of active work as a general practitioner and as a gynecologist

Our method of treatment must be based on our ideas of etiology and pathology, so that the first effort of the gynecologist should be to discover, so far as possible every cause of disease of women, and to endeavor to obtain a correct understanding of the morbid processes existing in any given case, and in all cases Fortunately for the present age, the activities of physicians in the past have resulted in the establishment of a well nigh perfect classification of diseases, with a good nomenclature and a very clear understanding of the symptoms and course of the various diseases Our debt of gratitude to our predecessors is immeasurable As observers and classifiers of facts, the physicians of the past were fully equal to those of the present day They have, however left for us to solve many a knotty question, especially those relating to the causation of disease and the morbid processes induced by the same I do not need to cite instances You are familiar with them We have all witnessed the struggles to discover the cause of cancer, of epilepsy, of the development of neoplasms, of eclampsia of the growing sterility in the class of educated women And so, too, have we witnessed the efforts to find not only the cause but the pathology of painful menstruation, of the perplexing pain in the ovarian region usually denominated ovarian neuralgia, of the blighting of organs and the lack of co-ordination of the nervous system In each one of these morbid conditions, or distressing signs of disease, there is a fruitful field for investigation

Many of the sources of infection have been found their disastrous results ascertained, and the methods of prevention and cure are becoming known In the labors of Jenner, Pasteur, Koch, Lister, Tate and others, humanity has been greatly blessed They have not only been benefactors of the world, but have given our profession immortal fame McDowell's and Sim's names should be added to the list of benefactors The achievements of all these great men came not by chance but by deliberate effort In like manner shall appear the findings of the present and future physicians, for we discover that which we seek to find, more perhaps than we at first thought, for our vision enlarges and our understanding quickens as we advance

I have been incited to give utterance to these thoughts because of one or two pessimistic papers and a few remarks I have listened to during previous meetings of this section So long as the world stands there will be unsolved problems, and a suffering people waiting for their solution The moral is let each man find an unsolved problem within the scope of his attainments and then set himself deliberately and persistently to the task of its solution

SENILE ENDOMETRITIS

The scientific subject I have chosen to discuss at this time is "Senile Endometritis," and it is selected because I believe it has not received the attention at the hands of practitioners and authors its importance demands There seems to prevail a mistaken idea that endometritis affecting women before the menopause disappears after that period, and that should there be by chance a case prolonged beyond the climacteric, it is of little importance and easily cured Such is not the invariable rule It is true endometritis after the menopause is not of so frequent occurrence as it is during the childbearing period, yet is not uncommon, as evidenced by the fact that out of 161 consecutive private cases of disease of the reproductive organs recorded in my case-book, there are histories of 15 cases of senile endometritis of sufficient severity to bring the patients to a specialist for relief The complications of the disease are in the main different from those in the ordinary cases of endometritis Its course is more protracted, and the sufferings of the patients marked and characteristic, so that the writer believes senile endometritis should be treated as standing in a separate class

Clinically, we observe two forms of the disease, classified according to the intensity and duration of the inflammation, viz, the acute and the chronic The acute form results from primary infection or from an exacerbation of the chronic form of the inflammation I have observed a number of cases of acute senile endometritis, due to gonorrheal infection In these instances the vagina was involved first and later the endometrium In one case in which there was also mixed infection, the inflammation extended beyond the interior of the uterus into the tubes and ovaries and to the pelvic peritoneum Inasmuch as this raises a question which has not been much discussed heretofore, I have thought it best to introduce the history of this case It is as follows

CASE 1—Mrs A, aged 54 years The menopause occurred *four years previously* She was a large, finely developed colored woman who did not appear to be more than 45 years of age She came into my service at the City Hospital, Oct 15 1902 She complained of pain in the hypogastric and inguinal regions and had a vaginal discharge She confessed she thought she had gonorrhea, which had been contracted six weeks previously

Examination—There was slight fever, marked pain and systemic disturbance enough to confine the patient to the bed A vaginal examination showed only slight vaginitis, but marked endometritis, a fixed uterus and induration surrounding the uterus Dr W S Dodds made a bacteriologic examination of the vaginal and uterine secretions, demonstrating the presence of gonococci, streptococci and staphylococci

Diagnosis—Here, then, was a case of acute pelvic inflammation, due to gonorrheal and mixed infection, the infective material finding lodgment in the uterus, and there exciting an inflammation that extended to other pelvic tissues Two weeks after her admission an examination showed a marked improvement in the pelvic peritonitis and the prolapsed inflamed and agglutinated tubes and ovaries could be palpated A few days later it became apparent that pus had formed and was accumulating in the tubes or ovaries The patient declined to allow us to operate by abdominal section, but finally consented to permit us to aspirate the abscess in the right tube or ovary with a hypodermic syringe By this means we drew from the abscess several drops of pus, thus demonstrating the statement I have made in a *former paper*,[1] *that in acute* senile endometritis "there is a tendency of the inflammation to spread to the uterine appendages and the pelvic peritoneum, resulting in some instances in pus accumulations within the tubes and ovaries or leading to pelvic adhesion"

In the beginning of acute senile endometritis there is marked intensity of symptoms The chronic form of senile endometritis may be a prolongation of a former endometritis, in other words, it may be a continuation of an endometritis existing before the menopause An endometritis resulting from gonorrheal infection and progressing until the tubes and ovaries must be extirpated in consequence of purulent disease, is very prone to persist after the salpingo-oophorectomy, even though the uterus be most thoroughly curetted

When the inflammation so persists it is most distressing and retards convalescence So distressing and persistent is this post-operative endometritis that I have gradually come to the belief that where the endometritis is pronounced and has existed long previous to the operation, it is the better practice to remove the uterus also, when necessary to extirpate the appendages Unquestionably, chronic senile endometritis in the majority of instances is preceded by acute endometritis when it is not a sequel of an anteclimacteric endometritis

Retroversion of the uterus and suppurating fibroid tumors are recognized as predisposing causes of senile endometritis *Prolapsus of the uterus, because of the* congestion of the uterus dependent on it, and because of the exposed condition of the cervix and os, must be considered another cause So may be laceration of the cervix uteri also In the latter case not infrequently the diseased condition of the mucous membrane and deeper structures of the cervix furnish a suitable field for the rapid development of microbic action Because of the lowered resisting power of the tissues, together with the proneness of these senile tissues to degenerative changes, there is no strong barrier against inflammatory changes, due to the activity of the pathogenic bacteria A patulous os and cervical canal may in some instances afford ready entrance to infectious material introduced into the vagina The sources and nature of the infections in senile endometritis are those common to inflammatory diseases of this region Gonorrhea is not so frequent after the menopause, yet when it does occur it often runs a virulent course, involving an inflammation of varying degrees of intensity, the vagina uterus and bladder, and not seldom the rectum also The history of the following case illustrates a frequent course in such cases

CASE 2—Mrs B, aged 52 years, passed the climacteric twelve years previously She consulted me Feb 19, 1898, giving the following history She is the mother of six children, and has always enjoyed good health until two years ago when she became ill, complaining of frequent and painful micturition, vaginal discharge and an inflamed and eroded vulva

Examination—At the time of my examination there was but little swelling of the vulva, but an intense vaginitis and marked endometritis The patient complained of very distressing smarting, burning and itching of the external genitals A few weeks' *treatment of topical applications of* solution of nitrate of silver and astringent douches brought marked relief so that the vaginitis seemed very nearly well, but the endometritis persisted In this case the discharges were purulent and offensive A bacteriologic examination showed the presence of gonococci in the discharge There were occasional small uterine hemorrhages

Operation—March 10, 1898 A thorough curettement of the uterus was done with a sharp curette and the cavity packed with iodoform gauze Two days later the packing was removed and the uterine cavity was irrigated with an antiseptic solution The os and cervical canal were patulous, the uterine cavity dilated, and the walls of the uterus very elastic, so that we felt the necessity of caution in curetting, lest the uterine wall be punctured or torn

After History—For a few weeks after the curettage the pa

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[1] THE JOURNAL A M A Nov 3 1900

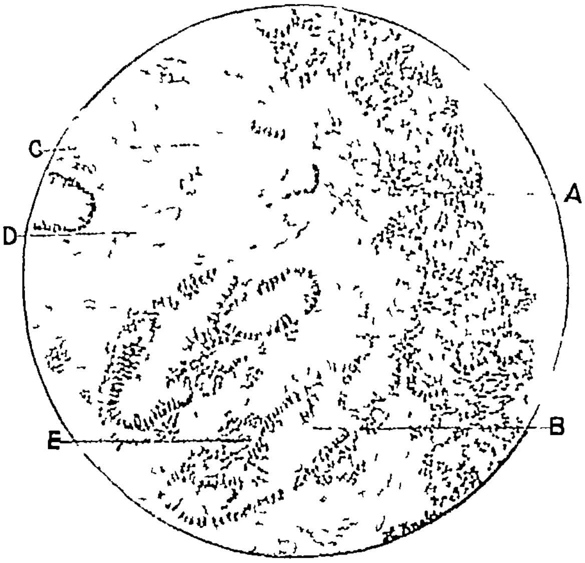

Fig 2—A Cervical epithelium B Cystic glands C Muscularis D Congested vessel E Round celled infiltration Bausch & Lomb 1/6 obj

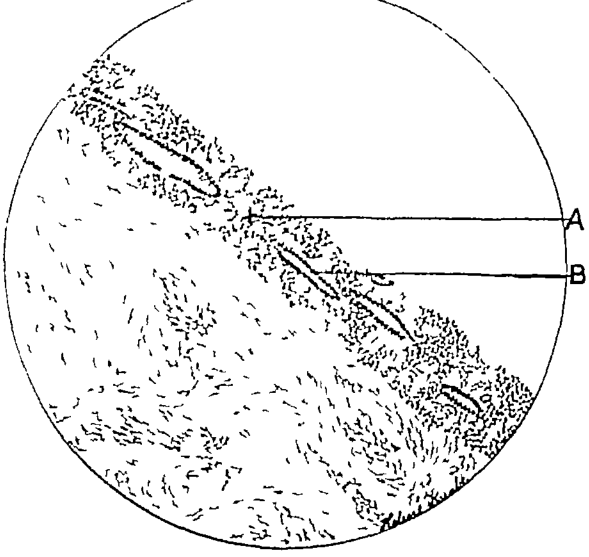

Fig 3—Endometrium. Area showing a thin atrophic mucosa gland tubules few and lying parallel to surface No inflammatory infiltration Surface epithelium entirely gone A Mucosa B Gland

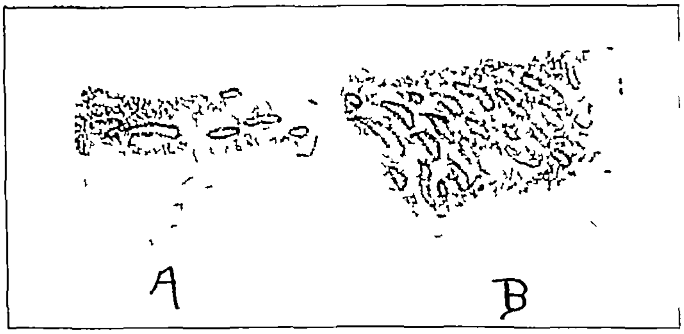

Fig 6—Outline sketch to show relative thickness of thin areas and thicker areas with inflammatory infiltration Bausch & Lomb 2/3 obj

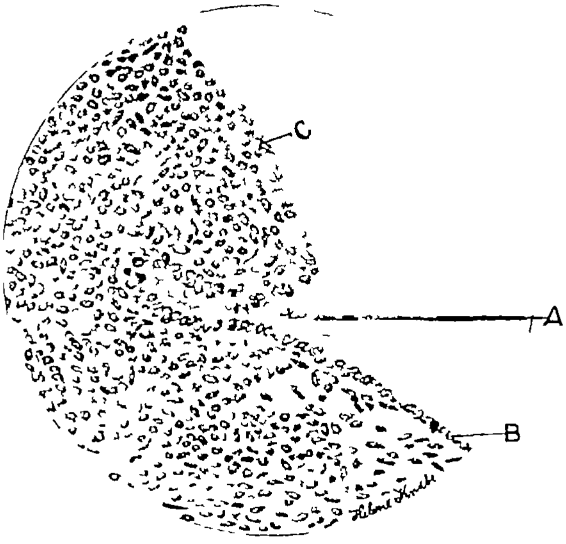

Fig 4—Senile endometritis Mucosa A Mouth of gland B Surface epithelium shows flattened condition cells are cuboidal or even squamous Epithelial layer is not continuous only a few such islands as shown here can be found limit of this island is seen at C Bausch & Lomb 1/6 obj

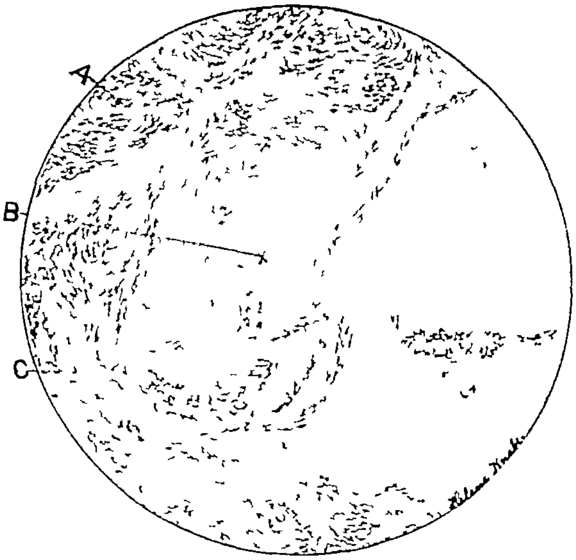

Fig 5—Cross section body wall of senile uterus A Normal muscle tissue B Area of mucoid degeneration involving both connective and muscle tissue. C Band of muscle tissue undergoing degeneration Bausch & Lomb 2/3 obj

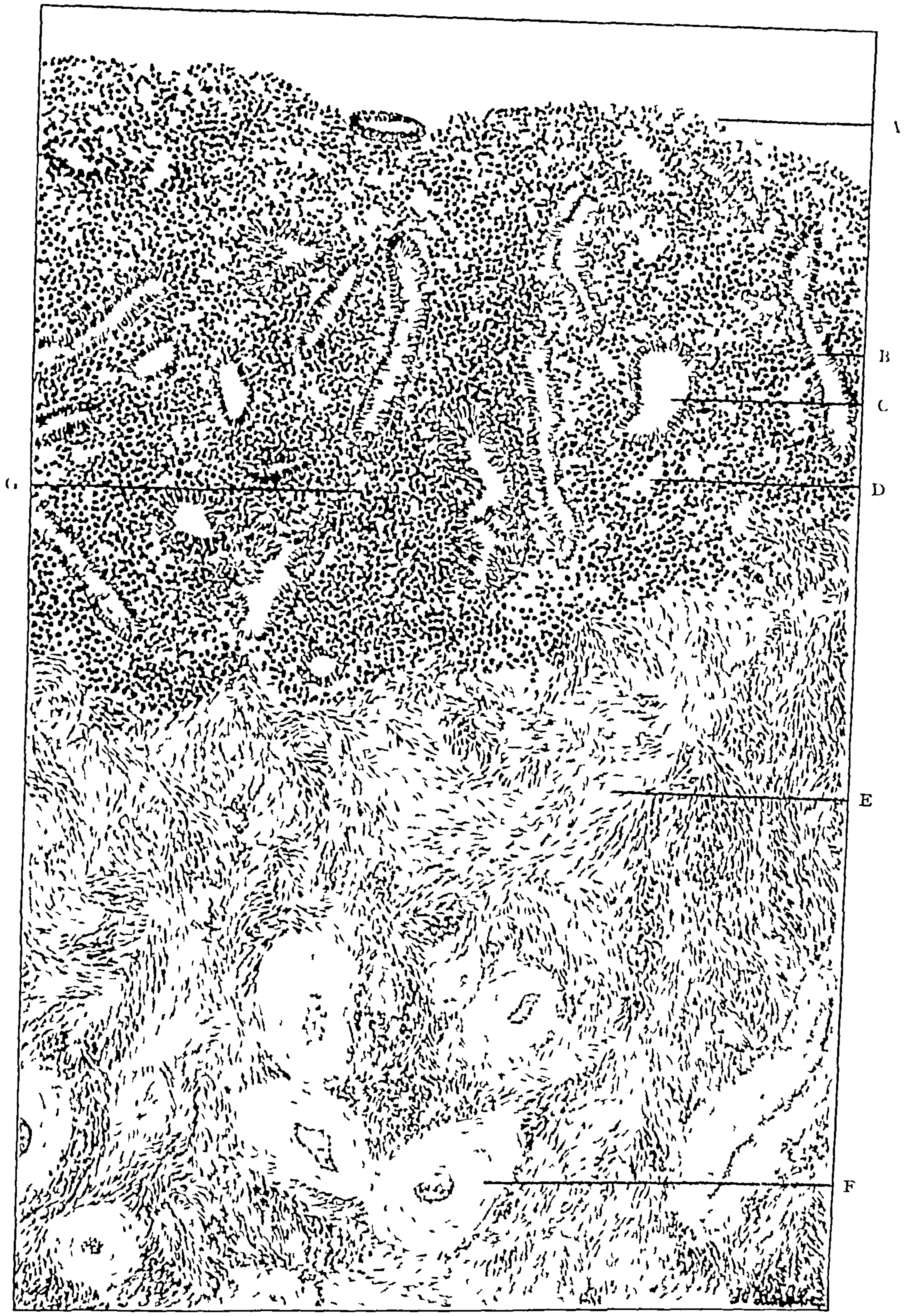

Fig 1 —Case 3 Senile endometritis A Denuded epithelium B Gland C Gland containing blood D Effused blood in endometrium E Muscularis F Vessel (arterio sclerosis) G Round celled infiltration Bausch & Lomb Ob 2 3

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION —Illustration of article by Dr L H Dunning tient was markedly better, but then the discharge gradually increased, became offensive and irritating, and slight hemorrhage appeared The patient declined to have anything further done for two years, when the suffering became intolerable, and I was asked to do another curettage I advised a hysterectomy, but it was rejected, so, Jan 6, 1900, another thorough curettage was done As in the former instance, this brought relief for a time, when again the discharge became profuse, offensive in odor and irritating to all the tissues it touched In January, 1904, the husband of the patient consulted me about his wife's case He said she was well nourished and able to attend to her household duties, but that she had the same old foul, irritating discharge, and occasional hemorrhages I urged the advisability of a hysterectomy, but this the patient declined, and I lost sight of the case

Case 1 illustrates the further extension of the inflammation into the uterine appendages and pelvic peritoneum In this instance, however, there was a mixed infection Investigations have not extended far enough to justify positive statements regarding the relative importance of the different pathogenic bacteria It is highly probable however, that the same principles and facts apply in senile endometritis that do in ordinary anteclimacteric endometritis

SYMPTOMS AND COURSE

Senile endometritis is not a self-limited disease It is prone to persist for a long period of time The acute form after a time gradually merges into the chronic form The symptoms are alike in both the acute and chronic forms, varying only in intensity

Some time in the course of chronic senile endometritis there is likely to appear inflammatory changes in the mucous membrane of the vaginal and urinary tracts, and also in the mucous membrane of the rectum When these complications arise, the patient suffers much distress on account of offensive discharges, frequent and painful micturition, and an uncomfortable fullness and painful feeling about the rectum Vulvitis is common, and leads to intense itching and marked nervous symptoms The most prominent symptom due to senile endometritis is the discharge from the uterus This discharge is purulent, muco-purulent or sanguinopurulent. Ofttimes it is of exceedingly offensive odor and in not a few cases the hemorrhage is considerable, but the sanguineous discharge is most frequently mixed with purulent material, and more or less of the composite mixture may be retained in the uterus and become exceedingly offensive In two of my cases I was entirely unable at first to understand why so much of this material accumulated within the uterus The os was patulous in both cases On examination the uterus was found to be slightly retroverted The walls of the uterus were thin and elastic and a histologic examination showed the muscular walls to be weakened by degenerative processes In these instances we had a full explanation of the cause of the retention, in the retroversion and in the diminished contractile power of the uterus

Dr Ferguson suggests that in cases such as he and Dr Ritter examined, inasmuch as the discharge found in the uterus on opening it after the operation was slight and inoffensive, that it is probable that the uterine discharges were arrested in the folds of the vaginal mucous membrane and there came in contact with bacteria which induced decomposition and gave rise to the offensive odor so pronounced on vaginal examination

Occasionally the internal os is closed This, however in my experience is not frequent and in this my observations are at variance with those of some writers In the few cases in which I have found retained pus, blood and débris in the uterine cavity the odor of these fluids has been exceedingly offensive.

Usually the cervical canal is easily dilatable, so that a large-sized sound may be passed with ease The purulent discharge is usually creamy in consistency, sometimes of an offensive odor, and more or less irritating to the external genital organs

Pain is a persistent symptom The pain is burning in character Occasionally the patient may describe the pain as a sore pain, and in rare instances the soreness of the pelvic organs is the chief cause of complaint Many patients complain of backache and languor, and not a few of them are cachectic, the cachexia being due to a mild form of sepsis In the acute cases there are also systemic disturbances, such as a low grade of fever and general malaise Ofttimes the symptoms produced by the incidental or complicating lesions will overshadow the symptoms produced by the endometritis This is true especially if there be vulvitis attended by soreness, pain, itching and extreme nervousness, or if there be kraurosis of the vulva and a caruncle of the urethra Probably cystitis is the most distressing complication

In a former article[1] I gave the results of a microscopic examination of a uterus in which the lesion was acute senile endometritis To-day I present the histologic findings in two cases of chronic endometritis The first case is as follows

Case 3 —Mrs C, aged 63 years, was referred to me Jan 27 1904, by Dr Peacock of Ladoga, Ind The patient passed the menopause twenty three years ago She states that her health was good until four or five years ago, when she had an attack which was pronounced gallstone colic She recovered from this when she began to have falling of the womb The latter disease was gradually increased until it had become a great source of discomfort to her, and has been aggravated because of the necessity of her being compelled to lift and care for a helpless husband She says that for about a year she has had a creamy discharge from the genitals Last August, five months ago, she had the first bloody discharge Since that time she has had a bloody discharge almost continuously This discharge was at times quite profuse She states that there is at times a watery discharge, the odor of which is very offensive.

Examination —The uterus was prolapsed to the second degree, the vaginal walls partially prolapsed, thickened and reddened The external os showed some slight redness with two or three small areas of papillary enlargement. These bleed readily on touch There did not seem to be any localized area of inflammation or irritation of the vaginal walls The prolapsed portion of the vaginal walls showed the usual thickening and roughening, due to prolapsus, and irritation due to the friction of the patient's clothing The depth of the uterus was 2½ inches Quite a little sanguino purulent discharge passed from the uterus on examination It had an offensive odor

Diagnosis —I made a diagnosis of senile endometritis and prolapsus of the uterus, and decided to extirpate the uterus because of the prolapsus, which had not been relieved, notwithstanding a prolonged and persistent effort by her regular physician

Operation —The patient was sent to St. Vincent's Hospital and was operated on Feb 3, 1904 in the presence of the medical students, internes and with the assistance of Drs J Q Davis and C E Ferguson A hysterectomy was done by the Clamp method The uterus and appendages were handed over to Dr Ferguson for bacteriologic and histologic examination His report is herewith appended, together with drawings (Figs 1 and 2, Case 3) from microscopic sections

Dr Ferguson reports on this case as follows

Pathologic Report —"The length of the uterus is 3 inches a little more than one-half of which is cervix The depth of the canal is 2½ inches and patulous throughout its course The anterior and posterior walls of the body are each ¾ of an inch in thickness and very firm and resistant to the knife A cyst the size of a pea is seen on the cervical mucosa at the internal os The anterior and posterior lips are much thickened The endometrium from the internal os to the fundus is ecchymotic and closely studded with minute elevations

Microscopic Report—"Material obtained from a portion of the mucosa by gentle scraping shows an almost entire absence of columnar epithelia, and the presence of a large number of squamous epithelia, and a few red blood cells are found Sections show the surface epithelium changed or absent Extensive round celled infiltration of the mucosa is found, that in many places extends into the muscularis Glands are numerous, extend into the muscular layer, but are *not* tortuous as in endometritis glandularis chronica The mucosa presents numerous cystic spaces, in some instances filled with blood These spaces are dilated glands, lined by a single layer of columnar epithelium The capillaries are numerous in some parts of the mucosa, dilated and filled with blood The mucosa is thickened and infiltrated with blood throughout a greater part of its depth and surface The blood vessels of the uterine wall show marked arteriosclerosis, the thickened walls in some instances almost entirely closing the lumen This thickening is confined to the intima

The cervix shows marked increase in the glandular elements, numerous cyst adenomata, and congested blood vessels are present Arteriosclerosis is marked Round celled infiltration extends for some distance into the muscular layer

"Altogether, the microscopic examination gives the picture of a well-marked chronic endometritis in a senile uterus, with a tendency to hemorrhage, the hemorrhage being due to circulatory disturbances, probably dependent on degenerative changes in the walls of the blood vessels and chronic congestion incident to prolapsus of the uterus

Bacteriologic Report—"Immediately after the operation the uterus was bisected and cultures made from the endometrium on blood serum, agar agar and gelatin The result in every instance was negative A similar bacteriologic examination was made in Case 4, with a negative result"

CASE 4—Mrs D, aged 61 years, consulted me April 4, 1904, on account of prolapsus of the uterus which had existed 1½ years and had been treated by posture, tampons, pessary, etc, without more than temporary relief She was a well nourished and active woman On examination of the heart, lungs and kidneys nothing abnormal was found She complained of weight and burning pain through the uterus, and stated that she had a thin, creamy discharge from the uterus, which was irritating and at times of offensive odor She passed the menopause eleven years ago, and was not aware of the presence of any uterine disease or displacement until 1½ years ago The displacement of the uterus preceded the appearance of the discharge several months Two weeks ago she had, for the first time in eleven years, a sanguineous flow from the uterus lasting four days and as abundant as an ordinary menstruation

Examination—I found the uterus protruding from the vagina There was also prolapsus of the vagina, and the os was larger than normal, but not eroded The uterine sound passed readily into the cervical and uterine canals 2¾ inches

Operation—She was sent to the Deaconess Hospital and operated on April 6, 1904 The external os was closed by sutures, and the uterus extirpated by the clamp method

Pathologic Report—An examination of the uterus after removal showed the organ rather larger than the normal senile uterus There was supravaginal elongation of the cervix The cervical canal was patulous and the uterine cavity easily distensible There was no evidence on macroscopic examination of hemorrhage beneath the mucous membrane or into the muscularis

The specimen was given to Dr R H Ritter for critical examination Dr Ritter's report was as follows

"The uterine cavity was opened after the surface had been seared by a sterile knife, and the surface of the mucosa gently scraped by the platinum loop Culture tubes of gelatin, agar and blood serum were inoculated

"The uterine cavity is small, the mucosa lining it smooth, even and glistening The cervical canal is pervious There is a rather more than normal constriction at the internal os, but the external os is gaping There are numerous small colored spots, about the size of large pinheads, resembling petechiæ scattered throughout the corporeal mucosa

Microscopic Report—"Sections were made from six areas of the mucosa All present the same picture The mucous membrane varies greatly in thickness In some places it is thin and contains very few glands The glands that remain are small, usually with a very narrow lumina, and lie more or less parallel with the surface There is no inflammatory infiltration These areas then, exhibit the normal atrophic changes of senility

"In other regions the endometrium is of normal or perhaps slightly increased thickness, the glands are numerous but irregular and tortuous, many having dilated lumina The stroma of the mucosa in such places is quite dense, especially around the glands There is an irregular round celled infiltration of inflammation in these areas Throughout the whole endometrial surface the epithelium is almost entirely gone Only a few patches are seen, most of them lying about the mouths of glands The epithelial cells are very much flattened and are described as cuboidal, or even squamous, cells

There is no evidence of an ulceration of the mucosa, and no loss of substance by necrosis and sloughing to produce the 'thin' areas There has apparently been a simple epithelial degeneration I can find no evidence of hemorrhage into the mucosa or into the glands, nor any pathologic changes in the capillaries The muscularis shows a spread of fibrosis, probably not more, however, than is normal to the senile organ The blood vessels are markedly thickened, the lumen in many cases being almost obliterated by the thickened intima Hyaline degeneration has taken place to a marked degree in these vessels Throughout the larger bands of connective tissue, and involving also bands of muscle fibers, are masses of mucoid tissue, evidently a secondary change to the fibrosis"

There is a marked similarity in the macroscopic and microscopic appearances of these two uteri The evidences of inflammation are almost identical in both and this leads me to believe that they may be taken as the type of many cases of chronic senile endometritis, in which an anteclimacteric endometritis is prolonged and continued as a lesion after the menopause

The characteristic inflammatory lesions present are a thickened mucosa, for the most part divested of epithelium, and showing round-celled infiltration marked granular activity, the glands in both cases being here and there dilated and in some instances cystic The inflammatory process showed greater activity in the region of the glands The glands are lined with columnar epithelium, while the epithelium on the surface of the mucosa is flattened There is a tortuous course of the glands, and in one case (Fig 1 C) the lumina of a few of the glands are filled with blood The round-celled infiltration extends into the muscularis In this tissue, in Case 4 (Figs 5 and 6) was found mucoid degeneration of the connective and muscular tissue In both cases there is marked arteriosclerosis, and in one also hyaline degeneration of the walls of some of the arteries

In both cases there was considerable hemorrhage In one case (Fig 1) there was found effused blood in the endometrium and in some of the glands In the other case there had been but a single hemorrhage (profuse) yet there was more evidence of degeneration in the walls of the blood vessels than in Case 3 It is probable that had not the uterus been removed subsequent hemorrhage would have occurred

DIAGNOSIS

The diagnosis is made by the symptoms above enumerated and by the physical signs The pain and soreness in uncomplicated cases are distinctly referred to the uterus As a rule, the upper portion of the vagina is inelastic and the uterus difficult of palpation The vaginal portion of the cervix may be almost entirely obliterated, but the patulous external os can usually be felt In such cases it is common to find the vaginal mucous membrane surrounding the os more or less eroded in small areas, and the whole circumference of the upper portion of the vagina infiltrated and inelastic If now in this field is seen the opening of the patulous os, from which exudes a mucopurulent or sanguinopurulent discharge, we have in all probabilities to deal with a case of senile endometritis and if, further, a sound passes readily into the uterus, and by it it is determined that there is an absence of any neoplasm, and there is the presence of a smooth mucous surface lining a dilated cavity of the uterus, the diagnosis of senile endometritis may be confidently made

In other cases, especially if there be prolapsus of the uterus or laceration of the cervix, the cervix may be unusually large for a post-climacteric uterus Cystic degeneration of the cervix may be observed or an angry erosion which bleeds readily on the slightest touch Occasionally there will be found slight papillary elevations projecting from the eroded surface This latter appearance closely resembles that seen in incipient squamous-celled epithelioma of the cervix, and a differential diagnosis can be positively made only by a histologic study of portions of the diseased tissues removed for examination Another source of difficulty in diagnosis is an occasional presence of an adenoma of the cervix In these cases the sanguineous flow is more abundant and the discharge less purulent Here also a histologic study of portions of the diseased areas must be made to confirm the diagnosis

The same remarks hold true regarding the diagnosis in doubtful cases in which there is a sanguineous discharge from the interior of the uterus Here it is wise to thoroughly curette the uterus and make search for evidences of malignancy in the scrapings In all the cases of suspected senile endometritis in which I have explored the interior of the uterus with a dull curette, and there has been an absence of anything resembling a neoplasm, the case has proved to be non-malignant In the case of a sloughing submucous fibroid tumor the difficulties of diagnosis with microscopic examination are insurmountable In severe persistent cases I think it important to determine the character of the infection, as those due to mixed infection will likely require energetic treatment while cases dependent on gonorrheal infection will often demand hysterectomy When the internal os is closed the uterus will be found distended, so that if a probe be carried through the obstruction and the opening thus made dilated, there will be an escape of a considerable quantity of purulent or sanguinopurulent bad smelling discharge

TREATMENT OF SENILE ENDOMETRITIS

At the beginning of acute cases it is all important that good drainage be established and the complications duly treated Should there be stenosis of the os it should be overcome by gentle yet thorough dilatation The steel dilator may be used, but the tissues of the cervix are so inelastic that forcible dilatation must be employed with gentleness lest the tissues be lacerated The slippery-elm tent when it can be passed through the internal os is quite efficient In the acute cases I do not believe the curette should be employed until the intensity of the symptoms has passed I have on several occasions after dilating and washing out the cavity, made applications to the interior of the uterus of pure carbolic acid, and followed this in one to one and one-half minutes with an injection into the cavity of commercial alcohol No outward symptoms have followed this procedure, and very marked relief of the soreness and discharge has resulted This is, I believe, appropriate treatment for both the acute and chronic cases Such applications for a few times may be repeated once a week if well borne When the acute symptoms have passed, dilatation, curettage and packing with iodoform gauze have been beneficial and not infrequently curative The advantages gained by the curettage should be followed up by maintaining a patulous condition of the os and by making applications to the endometrium of solutions of nitrate of silver in strengths of 5 to 10 grains per ounce

Reference to Figure 6, Case 4, together with Dr Ritter's description of the microscopic findings in this case, will, I think, afford an explanation of the fact that not infrequently a curettage fails to effect the cure of endometritis In this case the inflamed portions of the mucosa were found in islands or patches, while other portions of the mucosa were normal If a curettage is not sufficiently thorough to remove the mucosa in every part of the uterine cavity and cervical canal, that part untouched by the curette or only partially removed, if inflamed may remain as a focus, from which will spread the lesion after regeneration of the endometrium

If senile vaginitis and vulvitis exist with the endometritis, these conditions should be, if possible, cured before the curettage

To this end, two or three times a week the vulva and vagina may be painted with a solution of silver nitrate This, with the applications twice a day of Lassar's paste to the inflamed tissues and the use of astringent and antiseptic douches, usually bring relief

In those cases dependent on the presence of a necrotic fibroid tumor, the remnants of the neoplasms should be removed by the curette or other means The writer has met with little success in overcoming retroversion of the senile uterus If this displacement is the cause of the endometritis, and the ordinary means of cure fail in the grave cases, recourse may be had to hysterectomy

During the progress of the local treatment attention should be given to the general health of the patient Tonics, alteratives and laxatives may be employed according to the requirements of the case[2] Skene places much reliance on the local effects of iodoform applied as a powder to the endometrium

The tendency toward recovery in senile endometritis is not marked, indeed, the disease is prone to persist in spite of all treatment When it does persist and contributes largely toward the production of the ill health of the patient, vaginal hysterectomy may be resorted to if the patient's condition demands and will justify such a procedure

In all, I have extirpated the uterus in cases of senile endometritis six times—five times by the vaginal route and once by the supravaginal route In two cases the endometritis was associated with procidentia, which furnished the chief indication for hysterectomy, in one case there was chronic sepsis, due to absorption from the uterus, in one case the appendages had been extirpated because of gonorrheal salpingitis and the endometritis was distressing and incurable, the patient being an invalid In the remaining case the uterus was extirpated under a mistaken diagnosis, as I believed I was dealing with a case of cervical cancer These were aggravated cases of senile endometritis with grave complications, and the results of the hysterectomy were most gratifying

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[2] Medical Gynecology p 500

In those cases in which there is atresia of the os and a resultant pyometra, great care must be exercised in effecting an entrance into the uterine cavity and in maintaining a patulous os A medium-sized, blunt-pointed probe may be gently insinuated into the os, pushed into the cavity, and this followed by one of larger size, and a still larger one until an opening of sufficient caliber has been made to admit the passage of an elm tent The dilatation of the os should be ample After a few days of draining of the cavity, curettage or the treatment of the interior of the uterine cavity with the carbolic acid and alcohol may be resorted to

When suppuration of the fallopian tubes or ovaries appear in the acute cases, hysterectomy and salpingo-oophorectomy is in my judgment the proper procedure

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Original Articles.

ARTERIOSCLEROSIS DUE TO LEAD*

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The subject assigned to me in the symposium was Arteriosclerosis Due to Metallic Poisons"

I have had no experience with the effects of other metals, and, therefore, confine my remarks to the toxic influence of lead

MODE OF ENTRANCE TO THE SYSTEM

Lead and its compounds are so commonly used by man that it is not surprising to meet with its toxic effects in the body This occurs more frequently because with some individuals it gains easy access to the body

Not only may it be taken into the body as a contamination of food and drink and doubtless from prolonged medicinal use, but it may also be taken into the alimentary tract from the hands soiled with metallic lead or from lead paints Doubtless it may be absorbed through the skin, as frequent cases of poisoning have occurred from the use of lead hair dyes

Cigarmakers sometime roll cigars on tinned plates which contain lead, and susceptible individuals are poisoned Diamond cutters who imbed gems in an amalgam of lead, which can be molded in the fingers and facilitate the cutting of the stones may suffer from lead poisoning

There can be no question that some individuals are very susceptible to lead

There is now in the Cook County Hospital, Chicago a man who is suffering from lead intoxication, who came in contact with the metal in the following way Once a week, in his bare arms, he carried the bars of lead solder, used to seal the locks of freight cars to the several cars of a train This brought his skin in contact with lead for a few minutes only once a week

Within the last few weeks I have also seen a woman who showed a typical blue line on the gums, granular degeneration of the red blood cells, and complained of marked colic and constipation

She washed the paint-smeared clothes of her husband, a house painter I could not learn that she came in contact with lead in any other manner

BLOOD CHANGES IN LEAD POISONING

When lead intoxication produces the typical blue line on the gums, the intestinal colic and constipation, the anemia, the palsies and encephalopathy, we recognize it readily

There can be no question that it also produces latent toxic effects which are not as easily recognized

The interesting observations of Moritz,[1] White and Wilcox,[2] Grawitz,[3] Homel,[4] Schur and Lowe,[5] Rosin and Bibergeil,[6] Reitter[7] and others, of the presence of red blood cells showing granulations in persons suffering with lead poisoning are important

With few exceptions, all observers agree to the constancy of the granulation of the cells of the blood in lead poisoning Many workers in lead, who present no other symptoms show this blood change

The blood of animals fed on lead early exhibits the granules in the blood cells Most observers look on the granules as of protoplasmic origin and degenerative in character The granules disappear from the blood when the cause is removed

Some individuals are more susceptible to this so-called basophilic granulation than others, and workers in lead whose place of occupation is less sunny and poorly ventilated suffer more than those in better hygienic surroundings Basophilic granulation is by most observers considered of value in diagnosis, and the disappearance of the granules is a good prognostic sign

EFFECT OF LEAD ON OTHER TISSUES

There is abundant experimental and postmortem evidence that lead may attack practically all the tissues of the body

Annino[8] fed lead to dogs, rabbits, rats and mice, and found that animals even of the same litter differ much in resistance Lead soon appeared in the urine Lead was also found in the fetus, which explains the tendency of women who suffer from lead poisoning to abort

In the different tissues it was noted that the lead produced varied effects

In protoplasm, cloudy swelling, fatty degeneration, vacuolization and granular atrophy and hyaline degeneration of the nuclei

In the later stages, connective tissue hyperplasia There was a decided tendency to hemorrhage and endarteritis, even to obliteration He observed fatty degeneration of the muscularis and of the capillary endothelium

Coene and D'Ajutolo[9] found that lead had first, a destructive action on parenchymatous tissues second, on the blood and blood vessels, and, finally, a sclerosing action This effect, they claimed, applied to all organs, but was most pronounced in the kidney

Oeller,[10] in an article entitled "Ueber hyaline Gefassdegeneration als Ursache einer Amblyopia Saturnina," found in the vessels of the eye endarteritis, hyaline degeneration, thrombosis and hemorrhage He argued that similar changes occurred in the vessels of other organs, notably the kidney, in lead poisoning

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders Frank Jones and W S Thayer

NOTE —The other articles in this symposium by Drs Thayer and Brush Drennen and Dock were published in THE JOURNAL September 10

[1] Deutsche med Woch, 1901, vol xxvii No 5 p 5
[2] Amer Jour Med Sciences 1901 vol cxxii p 266
[3] Deutsche med Woch, 1899 No 36
[4] Deutsch Arch of klin Med 1900 vol lxvii, p 357
[5] Zeitschrift f klin Med 1900 vol xl
[6] Deutsche med Woch 1902 Jan 16-23
[7] Wiener klin Woch 1902 Nov 20
[8] Ann di Chim e di Farmacol 1894 vol xx No 1, p 59
[9] Ziegler's Beiträge 1898, vol iii p 449
[10] Virch Arch, 1881, vol lxxxvi p 329

Stieglitz[11] found similar changes in the blood vessels, but most marked in the pulmonary circuit Mairer found the larger arteries unchanged, but very characteristic lesions in the smaller vessels He described aneurismal dilatations chiefly in the vessels of the intestinal tract, and other observers have found the same changes in the vessels of the kidneys, the muscles, the nervous system, the liver, etc Other observers confirm the findings of Stieglitz in reference to the involvement of the pulmonary vessels The changes consisted of endarteritis, fibrous thickening of the intima, hyperplasia of the periarterial connective tissue, excess of nuclei and thickening of the media The heart muscles showed fatty degeneration

Charcot and Gombault[12] produced changes in the kidneys of animals very similar to the chronic interstitial nephritis associated with lead poisoning in man

Coen and D'Ajutolo,[9] in their experiments on rabbits found that lead produced in the kidney parenchymatous degeneration, glomerulitis, with hyaline degeneration of the blood vessels and finally interstitial nephritis In the stomach, proliferation and degeneration of the cells of the glands, localized inflammatory changes in the arteries with endarteritis and perivasculitis in the submucosa Similar changes in the vessels of the intestine, liver and muscles The general sequence of changes noted by them were parenchymatous degeneration, blood-vessel changes, interstitial hyperplasias

Prevost and Binet[13] made extensive experiments of the effects of lead on rats, rabbits and guinea-pigs Nephritis could always be demonstrated microscopically

The experimental evidence of the toxic effect of lead on the various tissues of the body is supported by numerous postmortem records

Dickinson[14] reports that of 42 workmen having labor which exposed them to lead poisoning, dying from disease or accident in St George's Hospital, 26 had granular degeneration of the kidneys, with the usual cardiovascular changes Again, of 45 men dying of granular degeneration of the kidneys, 10 were lead workers

Leyden[15] relates a case with severe and widespread symptoms of lead poisoning

The autopsy showed the typical granular kidney The glomeruli were shrunken and fibrous, the afferent and efferent vessels and the tufts showed hyaline degeneration, moderate hypertrophy of the intima in some of the large vessels The left heart hypertrophy and a full, sustained, radial pulse during life Three other similar cases were reported with like findings

Leyden calls attention to the fact that there is practically no general arteriosclerosis in these cases of nephritis due to lead poisoning The arteries of the kidney are thickened by hypertrophy of the muscular coat,

Kussmaul and Maier[16] give the pathologic anatomy of chronic saturnismus This case they studied during life and postmortem. Clinically, there was a typical chronic plumbism, with nervous symptoms, colic, etc

Histologically, the connective tissue of the submucosa of the intestinal tract showed hyperplasia The walls of the vessels were decidedly thickened, especially the adventitia of the arterial twigs, with narrowing of the lumen There was a marked tendency to fatty degeneration of the muscular and glandular elements with decided atrophy There was a slight and definite increase of the connective tissue surrounding the blood vessels of the spinal cord, brain and the sympathetic ganglia

Von Schrotter[17] quotes a personal communication of Kolisko, who has made extensive observations of the arteries under the influence of lead Kolisko says that the vessel changes consist chiefly of hypertrophy of the media Preceding degenerative changes, as are usual in sclerosis, were not observed, and the intima is only occasionally the seat of hyperplasia.

Senator,[18] in the discussion of the relation of lead to chronic interstitial nephritis and the associated cardio-vascular changes, gives Lancereaux[19] the credit of first recognizing the importance of lead as a causative factor in nephritis Ollivier[20] also recognized the importance of lead as a cause of nephritis Senator also cites the experiments and conclusions, already quoted of Charcot and Gombault, Coen and D'Ajutolo, and the clinical and postmortem observations of Dickinson In addition, he quotes Jacob,[21] who found 12 cases of granular kidney, of whom 8 were lead workers Wagner[22] found lead as the cause fifteen times in 150 cases Senator was able to verify lead as a cause of the nephritis in 10 of 180 cases, and in 6 of these cases the clinical data were verified by autopsy

Thomas Oliver[23] discusses lead intoxication, and believes the sclerotic changes of the kidney are secondary to an original degeneration of the epithelium of the tubules The glomeruli finally become involved in the degenerative changes, and sclerosis ultimately occurs

Gombault[24] says that lead poisoning, like alcohol, syphilis and gout, has an injurious effect on vessel wall nutrition, hence predisposes to degeneration and sclerosis

Ebstein[25] discusses the relation of lead to gout In 1,103 cases of lead poisoning, gout occurred in 103 He cites other observers giving the same result In individuals predisposed to gout, even small doses of lead may cause an attack of gout

He believes that an hereditary predisposition to gout must exist in order that lead may cause gouty symptoms

Oliver[26] says that on experimental and pathologic grounds lead has a direct harmful influence on the kidney The first changes are parenchymatous, the second interstitial, that is, cloudy swelling and fatty degeneration in the convoluted tubules At the same time there occurs cellular proliferation in the labyrinth about the afferent glomerular vessels, on the inner Bowman's capsule, and between the tubules Then develops a true interstitial nephritis, with thickening of the walls of the vessels, described by Oliver as a mixed nephritis

Von Jacksch[27] says that in lead intoxication there are always serious changes in the nitrogenous metabolism of the body, resulting in an increased production of uric acid According to the newer theories of uric-acid formation, it must be supposed that under the influence of lead, there results an excessive destruction of nuclein containing substances This toxic influence is according to von Jacksch, a decreased oxidation

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[11] Arch f Psychiatrie vol xxiv
[12] Arch de Physiologie 1881 2d series vol viii p 126.
[13] Rev Med de la Suisse 1880 Nos. 10-11
[14] Dis. of the Kidney part 2 p 382
[15] Deutsche med. Woch 1883 vol ix p 185
[16] Deutsch Arch f klin Med 1872 vol ix, No 5 p 283
[17] Erkrankungen der Gefässe Nothnagel s Sp Path u Therap 1901 vol. xv No. 2 p 82
[18] Nothnagel s Sp Path. u Therap 1896 vol xix, p 244
[19] Union Med 1863 p 513
[20] Arch Gen de Med 1863 vol ii, p 530
[21] Deutsche med. Woch 1886 p 547
[22] Ziemssen s Encyclopedia.
[23] Allbutt s System of Medicine vol iii p 933
[24] Arch d Phys. vol v, p 153
[25] Virchow s Arch , vol cxxxiv, p 541
[26] Lead Poisoning in Its Acute and Chronic Forms, Edinburgh and London, 1891
[27] Nothnagel s Spec Path and Therap 1897 vol i p 297

CONCLUSIONS

From the above opinions of the effect of lead on the blood vessels and on those organs which, when diseased, have an associated or resultant thickening of the walls of the vessels, we may conclude that lead may produce a disease of the blood vessels either directly or indirectly

Directly, as shown by the numerous experiments on animals Probably this is by the direct influence on the vessel of the lead in the circulating blood Doubtless the walls of some of the larger arteries may be affected through the alteration in the nutrition, because of the primary toxic endarteritis, with the tendency to thrombosis and obliteration of the vasa vasora

The undisputed fact that lead may cause gout, and the equally true proposition that in gouty individuals arteriosclerosis occurs early, may explain the influence of lead in producing arteriosclerosis in rare cases

Experimental and clinical observations prove incontestably that lead will cause nephritis This is usually the contracted kidney, which sooner or later has associated with it the thickened arteries and left cardiac hypertrophy

Lead intoxication may lead directly and indirectly to arteriosclerosis

The recognition of lead intoxication during life, by any of the ordinary symptoms or by the basophilic granulations of the cells of the blood, in an individual suffering with arteriosclerosis, with or without nephritis, would not, perhaps, permit us to say definitely that the lead was the sole causative disease factor It would, however, be a rational therapeutic measure to safeguard the individual against further intoxication with lead in the treatment of the arteriosclerosis

100 State Street

THE RELATION OF ALCOHOL TO ARTERIOSCLEROSIS *

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LITERATURE

Most standard text-books[1] assert unconditionally the importance of the excessive use of alcoholic liquors in the production of arteriosclerosis Standard treatises on the heart and blood vessels[2] are equally emphatic In Nothnagel's magnificent "Specielle Pathologie und Therapie," Schrotter says, after reviewing the literature "Alcohol is considered by practically all writers on arteriosclerosis as the chief cause or at least one of the most important causes of the condition " Yet Schrotter himself seems to be somewhat dubious regarding the evidence on which the belief is founded, and there are others, such as Duclos[3] and Ribberts,[4] who are yet more outspoken in their skepticism

CLINICAL RESEARCH

1 I investigated first the question

How many cases of arteriosclerosis not referable to syphilis or to advancing age are to be found among alcoholics?

At the Bridgewater State Farm and the Foxboro Asylum for Dipsomaniacs, I investigated 283 cases of the severest and most chronic forms of alcoholism, excluding those over 50 years of age and those who have had syphilis A quart of whiskey daily for many years was a not infrequent history in these cases[5]

Of the total 283 cases, only 18, or 6 per cent, showed arteriosclerosis, so far as could be ascertained by examination of the heart and peripheral vessels, and by questions regarding the functions of the kidney[6] If the cases over 40 years be excluded also, the percentage showing arteriosclerosis falls to 1 4 per cent

2 I next endeavored to determine in what proportion of cases of relatively early arteriosclerosis of the peripheral arteries alcoholism was present

Out of the several hundred cases of arteriosclerosis seen by me at the Massachusetts General Hospital, 45 were under 50 years of age Only 6 of these, or 13 per cent gave any history of alcoholism

POSTMORTEM EVIDENCE

3 By the kindness of Dr J H Wright of the Massachusetts General Hospital clinicopathological laboratory, and of Dr F B Mallory, pathologist to the Boston City Hospital, I was enabled to examine the records of 656 patients, 95 of whom were under 50 years of age and with no history of syphilis, in which arteriosclerosis formed a part of the pathologic diagnosis at the autopsy On looking up the clinical records of these 95 cases, it was found that in 57 cases, or 60 per cent, it is expressly stated that the patient took no alcohol Regarding the remaining 39 cases, in the table given below, I have quoted the actual words of the record It will be seen that in 8 cases excessive alcoholism is expressly stated to have been present In 14 cases it is stated or implied that the amount of alcohol consumed was moderate, while in 5 cases the statement may be interpreted as an insignificant amount of alcohol Subtracting these 19 cases we have left 20 or 21 per cent, in which the consumption of alcohol was excessive

It will be seen from the table that 8 of the cases among those who took more or less alcohol, were found at the autopsy to have chronic nephritis as well as arteriosclerosis, so that if, as is usually believed chronic nephritis is a cause of arteriosclerosis, these cases should be subtracted from those which might be supposed to be due to alcoholic excess This would remove 4 of the cases in whose clinical record excessive alcoholism played a feature

It should also be borne in mind that as most of these cases were taken from the records of the Boston City Hospital, and as that hospital is patronized very largely by those in whose history alcoholism is a feature, the possibility of a coincidence in the occurrence of alcoholism and arteriosclerosis can not be disregarded

Finally, I will mention briefly the case of a well-known young Bostonian, who deliberately drank himself to death at the age of 36 For the previous ten years

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*Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders, Frank Jones and W S Thayer

[1] For example Osler Tyson Strumpell Wood & Fitz, Loomis-Thompson and Krehl (in V Mering)

[2] For example Huchard Byrom Bramwell and Babcock

[3] Duclos Du Systeme arteriel chez les alcooliques Paris, 1888

[4] Ribbert Pathol Anatomie 1902, p 612

[5] I desire expressly to thank Dr Charles A Drew Medical Director of the Bridgewater State Farm, for his assistance in securing data on these cases

[6] Patients whose arteries were merely palpable without being tortuous hard or rough were not counted as cases of arteriosclerosis

of his life he had been in the habit of taking one or two quarts of whiskey a day for about eight months in the year At the postmortem examination particular attention was paid to the condition of the arteries and they were found to be entirely normal

CONCLUSIONS

1 Only 6 per cent of 283 cases of chronic and excessive alcoholism under 50 years of age showed any evidence of arteriosclerosis

2 Of 45 cases of arteriosclerosis examined by me at the Massachusetts General Hospital, only 13 per cent gave any history of alcoholism

3 Of 656 autopsy cases of arteriosclerosis only 95, or 14 5 per cent, were under the age of 50

4 Out of these 95 cases under 50, in which arteriosclerosis was found postmortem, only 21 per cent, and if we exclude cases complicated by chronic nephritis only 17 per cent appear to have consumed alcohol in any notable excess

The details of the autopsied cases may be seen from the following table

TABLE OF POSTMORTEM AND CLINICAL RECORDS IN CASES OF ARTERIOSCLEROSIS

Case	Age in Years	Pathologist's Diagnosis	Previous Diseases and Present Complications	Amount of Alcohol Consumed
1	30	Art.	Ch nephritis	Five or six whiskies daily for last 15 years.
2	36	Art		One or two wines daily never to excess
3	41	Art	Phthisis	Moderate alcohol.
4	24	Sl. art.	Ch nephritis.	Alcohol moderate
5	43	Sl scl. of aorta		Always hard drinker
6	37	Art	Phthisis.	Four or five whiskies and four or five beers daily
7	21	Sl scl. of aorta	Typhoid fever	Alcohol in moderation, but regularly
8	35	Gen art	Ch nephritis.	Four or five whiskies before breakfast
9	21	Sl art	Typhoid fever	One whisky every other day
10	38	Sl. art	Diphtheria, ch nephritis.	Four to six beers daily occasionally whisky
11	31	Sl. art		Two or three whiskies and four or five ales daily
12	32	Art		'Drinks considerably '
13	43	Sl art		Alcohol excessive
14	30	Art of aorta		Two glasses of whisky a week and two beers daily
15	43	Art aorta		Beer and whisky occasionally
16	39	Art	Typhoid fever	Half pint whisky daily
17	39	Art	Typhoid fever	Occasionally whisky
18	40	Art		Alcohol to excess
19	44	Ar	Ch. nephritis	Drank heavily of beer
2	46	Art of aorta		Alcohol to excess
21	34	Art		Alcohol to excess.
22	46	Art.		Two or three whiskies and two beers daily
23	46	Art.	Aortic regurg	Alcohol moderate, but steadily for years.
24	25	Sl. art.		Alcohol in excess.
25	33	Scl mitral curtain and aortic arch		Alcohol in great excess
26	37	Aortic scl		Alcohol for last 10 years
27	24	Coronary scl	Ch nephritis scarlet fever	Three or four beers daily occasionally whisky
28	42	Aortic scl	Ch nephritis	Alcohol to excess
29	43	Gen. art	Phthisis.	Four or five beers daily
30	48	Gen art	Ch nephritis	Alcohol considerable
31	38	Gen art	Fatty deg heart	Diag alcoholism (acute) Amt of alcohol not known
32	20	Art	Typhoid fever	Takes less than one drink a day (beer)
33	44	Gen. art	Ch. nephritis	Occasional glass of ale, gin or whisky
34	29	Gen art	Aortic insuf	Four beers daily
35	41	Art		Rum three glasses week, year around
36	42	Art		Two or three bottles of ale a day
37	39	Art.	Typhoid fever	Drank lots of beer till year ago—four or five glasses a day—and 'a certain amount of whisky "
38	40			No alcohol for last 13 years before then 14 or 15 whiskies a week
39	41	Art.	Smallpox	Two or three beers daily half pint of whisky a week, off and on

In Cases 40 to 95 the record expressly states that the patient did not use alcohol

Art.—Arteriosclerosis ch.—chronic sl—slight gen—general scl—sclerosis deg—degeneration

ANGINA PECTORIS AND ARTERIOSCLEROSIS *

WILLIAM OSLER, M D

BALTIMORE

In contrast to the many uncertainties relating to angina pectoris is the circumstance that in a large proportion of cases the attack is only an incident in the history of arteriosclerosis Since Edward Jenner demonstrated postmortem disease of the coronary arteries the association of a lesion of these vessels with the disease has been accepted as one of the best attested facts in cardiac pathology Not that it has helped much to explain the mysterious nature of the pain of the attack, or all of the phenomena of the paroxysm Pain in arteriosclerosis, as we see it in other parts, deserves a more careful study than it has yet received In the head there is the association of migraine with arterial disease, the severe and characteristic headaches of arteriosclerosis and high pressure, and the agonizing pain in some cases of embolism of the cerebral arteries, more rarely in thrombosis Abdominal pain is not often due to vascular disease, though there are cases in which from the situation and intensity of the paroxysm it might rather be called angina abdominis than pectoris There may be severe pain in lesions of the mesenteric arteries and in thrombosis of the iliac vessels in typhoid fever It is in sclerosis of the arteries of the extremities that we meet with the most remarkable disturbances of sensation The pain in embolism or thrombosis of the femoral or popliteal arteries is very intense, particularly at the site of the lesion In the ordinary sclerosis, particularly of elderly persons, there may be, first, simple paresthesiæ, the numbness and tingling so commonly complained of, secondly, attacks of painful cramps, usually slight and nocturnal, or recurring paroxysms of extraordinary intensity and deserving the name of angina cruris more than intermittent claudication, which Walton has applied to it, thirdly, the pain, not always present, in intermittent claudication fourthly, the paroxysms of pain with erythema, etc the arteriosclerotic type of erythromelalgia

But the pain in angina pectoris is *sui generis,* unlike in intensity any known variety, and while its association with coronary artery sclerosis is unquestionable there is something additional, some other element for which, as yet, we have no explanation

In relation to arteriosclerosis, there are four groups of cases of angina pectoris First, the neurotic, in which in young persons all the symptoms of the disease may be present and death occur, and autopsy shows normal coronary arteries and neither local nor general disease of the arteries Such cases are not common, but I have reported an instance in a young man of 28 who had had for years paroxysms of cardiac pain of the most agonizing form, who died in an attack

Secondly, the angina pectoris of young men associated with syphilitic arteritis, aortic or coronary, or both This is a very distinctive form, occurring usually in men under 35 years of age There may be no general arteriosclerosis, but the lesion is either at the root of the aorta, or involves the sigmoid valves, or it may be confined to the coronary arteries The anginal attacks, while severe, are sometimes relieved or even cured by the iodids The paroxysms of pain may be the initial symptoms of aneurism of the first portion of the arch

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Thirdy, the presenile cases, forming the great majority, in which the attacks are associated with coronary artery sclerosis as part of a widespread degeneration of the vessels Hard work, mental more often than bodily, the stress and strain of modern life, excesses in diet and drink, are the factors most concerned, though why in individual cases angina should occur we can not say There is another element, as yet unknown, since in only a very small proportion of cases of coronary artery sclerosis does angina occur

Fourthly, the senile group After 70 angina is a not infrequent manifestation, a sort of terminal event in the cardiovascular degeneration Death often results from an attack, or there may be a series of paroxysms preceding a final breakdown

THE TREATMENT OF ARTERIOSCLEROSIS *

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PHILADELPHIA

To develop the subject of the treatment of arteriosclerosis in its principal bearings, it will be necessary first to subdivide the cases into etiologic categories, as follows 1 Those due to toxic agencies in the blood, e g, in chronic alcoholism, lead poisoning, diabetes mellitus, syphilis, gout, rheumatism and other infectious diseases 2 Arteriosclerosis caused by the constant ingestion of an excess of either the carbohydrates or nitrogenous foods 3 Cases dependent on constant hypertension, due to muscular overexercise, as in certain laborious occupations and violent competitive sports 4 Aortic regurgitation, in which overfilling of the blood vessels is a concomitant, also exalted tension arising from ingestion of an excess of fluids, as in beer drinkers 5 Cases due to senile degenerative changes

With the two last-mentioned groups of cases I shall not deal at present writing, although many of the measures that will be recommended for arteriosclerosis originating in other ways tend to retard senile degeneration

PROPHYLAXIS

Prophylaxis should begin in early life, restraining enthusiasm, energy and pluck which lead to competitive efforts in the popular domain of athletics, and cripples the arterial system on which the individual must rely for work and usefulness in after life Another consideration pertains to the regulation of the occupation particularly during childhood and adolescence On the detection of any discoverable, adequate cause for the arteriosclerosis, however, early in life the aim should be to counteract or overcome them, and at the same time bring into requisition certain hygienic measures for their favorable influence in improving the metabolic processes Attention must be paid to the foodstuffs that furnish suitable products for both anabolism and catabolism Oxidation, that most important chemical process in catabolism, by means of which decomposition of albumin, sugars and fats is accomplished with fixation of oxygen, is greatly favored by well-regulated, systematic muscular exercise This is especially true of the fats, less so of the proteids The maintenance of a complete nutritive equilibrium is a potent means of preventing those pathologic processes which inevitably result in various forms of degeneration among which arterial changes are apt to be earliest manifested

GENERAL TREATMENT

In existing arteriosclerosis, each sufferer must be minutely investigated as regards the extent of the arterial changes, the tension of the pulse, condition of the heart, digestive functions and eliminative power of the kidneys

Perhaps the majority of cases are dependent on gout At all events it may be regarded as the type of the causative conditions mentioned under one and two, and in the etiology of individual cases two or more of these factors may be present together Thus the use or abuse of alcohol plays a not unimportant rôle in the arteriosclerosis of gouty subjects

HYGIENIC MEASURES.

In this class (due, as above mentioned, to toxic agencies which, in turn, are often dependent on faulty metabolism, acting as irritants of the blood) nothing is so vitally important as a suitable diet and regime There is, however, no special diet suitable for all cases of gout no dietetic rules universally applicable When the metabolic processes are abnormal they vary with the individual cases

It is highly probable that certain individuals are proof against overindulgence in foods and alcohol At least in my view, the amount of aliment that can be ingested without apparent pathologic effects differs within almost inconceivable limits in different persons On the other hand, when there is distinctly marked evidence either of gormandizing or mere overeating of either the carbohydrates or the more concentrated nitrogenous articles of diet, in gouty individuals we find that a careful regulation of the patient's dietary is obviously helpful Such subjects, in addition to manifesting gouty features, are, as a rule, plethoric, robust and often inclined to corpulency, and a rigid system of living must be enjoined A suitable and ofttimes a considerable restriction in the amount of food is a prime requisite Both fat-forming and urea-producing foods must be lessened as a rule

It is highly probable that urea which is so irritating to the kidneys, acts similarly on the coats of the blood vessels Again, granular kidneys are a not uncommon concomitant of arteriosclerosis, and when present demand a special diet

Per contra spare subjects, whose general tone is low and who are afflicted with arteriosclerosis, require a more generous diet, embracing a liberal allowance of fat-producing foods

Time and space will not permit me to enter into details concerning a podagric dietary, but broadly speaking, permissible articles of food are Whole milk, eggs butter succulent vegetables, fruits (except strawberries bananas and tomatoes) and farinacea

Of animal substances, oysters, fowl and fish (except those that contain much protein as salmon, mackerel smoked herring, halibut, salt codfish, flounders canned sardines, and the like) may be partaken of, while beef and mutton are to be employed, although cautiously Mohr and Kaufman have shown that the nitrogen excretion is quite as good for the dark as the light meats Respecting animal food, it may be said that it is beneficial rather than harmful if taken in moderate, suitable quantity

In the gouty subjects, certain waste products, as uric acid and urate of soda, are retained in the system because too little fluid is taken to hold them in solution and insure their exit from the system through the natural channels of elimination—the kidneys It is a misfortune that gouty subjects commonly fail to take water between meals On the other hand, they should be urged to do so, thus favoring the elimination of effete products through the emunctories and obviating arteriosclerotic, muscular and arthritic changes

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders Frank Jones and W S Turner

Subjects of gouty manifestations must adopt an open-air life, coupled with regular, systematic muscular exercise, which increases the vigor and activity of the circulation, not only through the vascular system, but also through the lymph spaces and lymphatics It thus becomes an effective means of forcing from the system the waste products T Lauder Brunton[1] has emphasized the fact that the motions of the diaphragm tend to pump the lymph out of the peritoneum and pleura

The action of the heart, as Kronecker has pointed out, constitutes a sort of massage to the arteries, lungs and pericardium At each systole the blood stream drives the internal layer against the middle, and the middle against the outer, so that any fluid lying between them will be driven onward into the lymphatics *Per contra,* during the diastole, these layers will tend to separate from one another and draw fresh supplies of tissue juices from the vasa vasorum

EXERCISE

It follows that stimulation of the organic functions of respiration and circulation by systematic, wisely-regulated training will aid in the elimination of waste material and the maintenance of good, healthy nutrition of the thoracic organs and the outlying blood vessels

In arteriosclerosis the vascular tension is abnormally high, although it varies in degree Obviously, severe muscular exercise which induces and maintains a notable rise of blood pressure is inappropriate *Per contra,* mild exercise produces a slight temporary rise of blood pressure, but it falls during its continuance hence the latter form of exercise favorably influences the circulation by dilating the blood paths and thus lessening the peripheral resistance

Naturally, it is during the earlier period of arteriosclerosis, or before the changes in the arteries induce markedly increased resistance to the blood stream in the peripheral vessels, that muscular exercise produces its most beneficial effects As regards exercise in this disease, however, no hard and fast rule can be laid down.

MASSAGE

In massage we also possess a measure that by its stimulating influence on the circulation through the muscles produces an effect similar to that of muscular exercise Moreover, in this case, the heart is not called on to put forth extra exertion Indeed, the blood pressure is lessened by the use of massage, so that the heart's work is correspondingly reduced

While thus endeavoring to increase the elimination of the waste products through the kidneys, special attention should be paid to the subject of the quantitative estimation of the urea, the chlorids and other metabolic products My own studies and observations on this head show that in 80 per cent of gouty subjects the percentage of urea ordinarily contained in the urine is at least from 25 to 35 per cent below the normal

I have notes of 12 cases in which the daily output of urea had been on the average 200 grains, and under the influence of such measures as systematic physical exercise, massage and a liberal amount of simple pure water between the meals, the total daily excretion was greatly increased, even to the normal quantity in 3 of the cases

If the alternate contraction and relaxation of the voluntary muscles could be properly maintained, the return circulation through the veins as well as the lymphatic current would not require the aid of massage But unless a free circulation can be kept up by muscular exercise, carefully systematized, massage becomes imperative, since it is potent to bring about a rapid blood flow (three times more rapidly than the normal), thus preventing the deposit of micro-organisms, inorganic salts and other particles

By massage, we not only stimulate the alternate contraction of voluntary and involuntary muscles that are accessible, but also those that are inaccessible, principally by reflex action

The improvement brought about by this measure extends to the vascular system itself Edgecombe and Bain have found experimentally that while massage produces an initial rise of blood pressure, this is followed by a decided fall It was, however, found that severe massage and compression of the abdomen caused a rise of pressure occasioned by the dispersion of the blood in the splanchnic veins Massage increases the flow of lymph in a striking manner Now it is the function of the lymphatics to remove the effete matters from the tissues, they also take up the "superabundance of nutritive fluids not immediately required for the nourishment of the tissues" By remembering the principal causes of arteriosclerosis (before stated), it is clear that by a proper regulation of the séances massage becomes a most useful means of prophylaxis by stimulating the functions of the lymphatics, and it may exert a retarding influence in established cases Finally, massage also exercises a beneficial influence on the glandular secretions and the nervous system

In the disease under consideration, in which the arterial pressure is exalted, warm baths, which lower the tension both in the arteries and veins, are most serviceable They also materially assist in the process of elimination of waste materials through the sweat glands

I am fully satisfied that the agencies to which I have referred, namely an appropriate diet, systematic exercise, massage and warm baths, are of major importance as compared with the medicinal treatment in the management of this class of cases in which poisons are circulating in the blood, and these in turn dependent on perversion of metabolism

MUSCULAR STRAIN AS A FACTOR

The cases dependent on overexercise or muscular strain are numerous For this form of arteriosclerosis, the occupation is often responsible, and almost equally common are the instances occasioned by the abuse of the cardiovascular mechanism in competitive sports While possessing the power of accommodation in a high degree, the mechanism may yet be overtaxed in young subjects and the basis be laid for sclerotic changes early in life

In view of the voluminous testimony as to the injurious consequences on the heart and vessel walls of the diversified games indulged in under our modern civilization and the effects of the newer, strenuous life, it is encumbent on the medical profession to urge temperance in the matters of competitive athletics and strain, both mental and physical, without delay It has been well said that infections and accidents barred, death generally comes through arteriosclerosis[2] I hold it to be the bounden duty of the medical practitioners, who have doubtless been vividly impressed with the increasing number of cardiovascular conditions due to the general tendency in the direction of overexercise, to utter a note of warning to the public, and particularly to those having in charge our universities and other schools of learning

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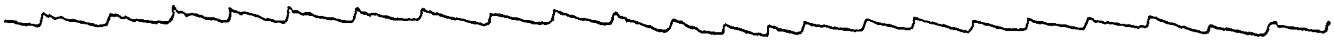
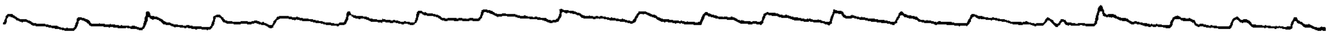
[1] The Lancet, Oct. 12 1895

[2] John L. Davidson, Canadian Practitioner and Review Sept., 1901

We may well ask ourselves, do we, as a profession which is the natural teacher and guardian of the populace on the subject of physical training, manifest due solicitude for the young men of the present and future generations? In an age which furnishes numerous examples of young men who, measured by Cazala's rule, are threescore years of age, it may well be inquired, what are the causes of this decay? May not the chivalry and enthusiasm of the football field and other violent forms of competitive sports form one of the chief sources of racial decline?

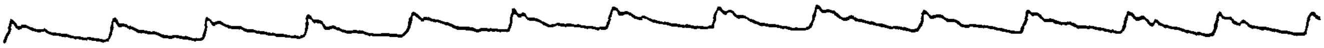
In this group the important element of treatment is efficient prophylaxis Many of these cases may thus be held in check, but I have never observed a complete subsidence of the arterial changes


Pulse Tracing 1 —Case 1 before taking nitrites


Pulse Tracing 2 —Case 1 after taking nitrites four days

MEDICINAL TREATMENT

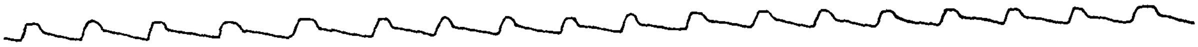
It is not within the scope of this paper to discuss the treatment of the recognized secondary affections, such as fibrous myocarditis, cirrhotic nephritis and cerebral softening, but attention is called only to the medicinal treatment of the arterial changes Individual cases, however, must be most carefully studied as regards the associated conditions, and these must receive due consideration The principle symptoms of this disease are due to a reduction of the lumen of the vessels and loss of elasticity of the coats, owing to the sclerotic changes conditions that diminish the blood supply to the various viscera


Pulse Tracing 3 —Case 1, after taking nitrites one week

It may be seriously doubted whether the disease is ever arrested by medicine We may, however, retard its progress to some extent and restore the normal rapidity of the blood current and lower the blood pressure by dilating the arterioles The remedies employed for this purpose are nitroglycerin the nitrites and potassium iodid

THE IODIDS

According to certain writers, the validity of the claims of the iodids has not been definitely shown, but they have long been lauded by others in the treatment of arteriosclerosis Except in cases due to syphilis, the results are in no wise comparable in brilliance to those following the careful application of hygienic measures mentioned above, and the use of the nitrites Billings says[3] "The iodids that have been so commonly used I have no confidence in, excepting in syphilitic cases" I have had considerable experience of their use in this disease, enough to allow of the inference that the long continued use of the iodids is serviceable, in some cases at least I hold that the iodids are without value as a means of reducing the vascular overtension, in the presclerotic stage In marked arteriosclerosis, however, iodin preparations exert a "resolvent action by stimulating phagocytosis" (M Huchard) This conclusion is corroborated by the available experience of other observers, but unfortunately these can not be submitted here for lack of time and space


Pulse Tracing 4 —Case 2 before taking nitrites

It is difficult, however, to interpret the results obtained from the use of the iodids, since it not seldom happens that noticeable remissions in the arterial tension are seen during periods in which no special treatment is employed We are sadly in need of reliable data that shall indicate their precise influence more especially in diminishing the arterial resistance

Obviously, the iodids are called for, and extended observations have shown them to be of decided value in cases showing a luetic taint The use of nitroglycerin and the nitrites to relieve high arterial tension is a customary practice among clinicians During clinical observations of the pulse, the palpating finger is sensible of variations in the tension, but it fails to convey precise knowledge as to the extent of the fall resulting from treatment

I have appended a few spygmographic tracings which indicate the results of treatment with nitrites and nitroglycerin in the arteriosclerosis of chronic Bright's disease, as well as that associated with other conditions A glance at these tracings will convey to the observer a better idea of the degree of lowering of the blood tension than is furnished by palpation of the radial and other accessible arteries For the sake of clearness brief notes[4] of three cases experimented on will also be given

Case 1 —R F, aged 68 years, colored, weight 120 pounds height 5 feet 2 inches, single, a patient in the Philadelphia Hospital He had used beer, gin and whisky to excess since the twentieth year of life His mother died of phthisis and his father of dropsy, following asthma Patient had had acute rheumatism ten years previously and had been subject to renal asthma and palpitation for four years The physical signs indicate a moderate degree of emphysema and cardiac hypertrophy, the arteries are cord like and the tension high The urine is of low specific gravity (1006), contains a small percentage of albumin, but no casts

Strychnin, which had been administered for several weeks was discontinued and a careful pulse tracing made (See Pulse tracing 1) The following preparation, highly recommended by M Huchard,[5] was then given Sodii nitrite gr xxx potassii nitratis dr 2 ss, sodii bicarb dr 5, aq destil oz x, M S oz ss t i d

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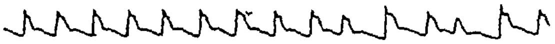
[3] International Medical Magazine May 1893

[4] I am much indebted to Dr Wm E Hughes from whose service Cases 1 2 and 3 were selected for permission to make these observations

[5] New York Medical Journal Oct 21 1903 p 804

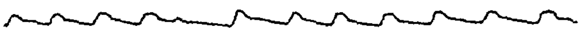
After the lapse of four days a tracing was taken (Tracing 2), and at the end of seven days another (Tracing 3)

A comparison of Tracing 1 with Tracing 3 will show that the height of the primary, ascending wave or upstroke is distinctly greater for the latter than for the former This would indicate greater distension of the elastic walls of the vessels as the result of the use of the nitrites Again, the dicrotic wave, which is scarcely noticeable in Tracing 1, is more prominent in Tracing 3, and slight post-dicrotic waves are also observed From this effect on the pulse tracing we may infer that more efficient propagation of the blood current to the capillaries is the result of the treatment Unfortunately, the patient now voluntarily left the hospital and was lost sight of



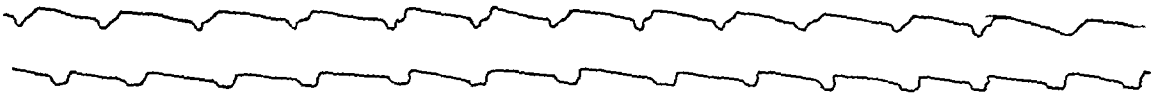
Pulse Tracing 5—Case 2 after taking nitrites one week

CASE 2—W H., aged 61 years, weight 135 pounds height 5 feet 1 inch, a native American admitted into the Philadelphia Hospital He had smoked since his ninth year, and had been guilty of excessive indulgence in gin for a considerable period of time The family history revealed nothing of etiologic importance. Patient had had diseases of childhood At the age of 40 years, he fell from a building (32 feet in height), in this accident he sustained a fracture of the clavicle and several ribs, and at present his thorax is greatly deformed (dorsal kyphosis) Had rheumatism (subacute) in 1902, and also since then at intervals In the spring of 1903 was troubled with dyspnea on exertion and malleolar edema



Pulse Tracing 7—Case 2, after taking nitroglycerin four days.

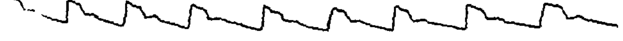
The physical signs on admission show arteriosclerosis combined with an aortic stenotic murmur and tense pulse, and moderately hard arterial walls The nitrite (formula above) was employed. Tracing 4 was made prior to its use, and Tracing 5 after it had been administered for one week



Pulse Tracing 9—Case 3 right and left radial arteries after taking drop doses of aconite three times a day

A comparison of these two tracings will show that a striking change was produced by the remedy, chiefly in the direction of the lowered blood tension This was also appreciable to palpation at intervals Tracing 6 was made two days after the nitrite was withdrawn in Case 2, thus showing that its favorable effects are not permanent.

The patient was now put on nitroglycerin gr 1/100, increased to gr 1/50 t i d, and at the end of four days Tracing 7, which closely resembles the original tracing, was made



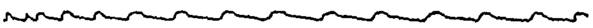
Pulse Tracing 10—Case 3 left radial after taking nitrites one week.

After the lapse of ten days more, or a two weeks' course of nitroglycerin (gr 1/50 q d during the second week) Tracings 7a and 7b were made

While this remedy has considerably modified the original tracing, it exerted a less favorable influence by far than the nitrites (vide Tracing 5), although it is probable that the dose was not large enough

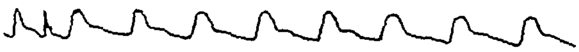
CASE 3—G B T, native of United States, aged 42 years, widower, height 5 feet 10 inches, weight 150 pounds, occupation, trackman The following is, in brief, the family history Mother died of cardiac dropsy, father of kidney trouble, one brother of heart disease and another of pneumonia Patient had had diseases of childhood, acute rheumatism in 1888 and at various times since then, also several bad attacks of la grippe The patient had worked laboriously and used alcohol to excess for twenty years, there is no history of syphilitic infection obtainable The illness for which he was admitted began two weeks previously as rheumatism of ankles, hips and shoulders

The physical examination on admission indicates an existing double valvular lesion, namely, mitral regurgitation and aortic stenosis The arteries were palpable, moderately hard and quite tense, and the tension of his right radial appeared to be greater than that of the left This is also shown in Tracings 8 and 9, the former being that of his right and the latter of the left radial artery This patient had been taking drop doses of the tincture of aconite thrice daily



Pulse Tracing 6—Case 2 after nitrites had been discontinued for two days

At the end of one week of treatment with the nitrite solution, Tracing 10 (which see) was made from left radial, and indicated a decided modification of the tension as the result[6]



Pulse Tracing 8—Case 2, after taking nitroglycerin two weeks

Without stopping to multiply instances, it may be further remarked that the results of these sphygmographic studies made clear the difference between various conditions described under the title of arteriosclerosis Thus the blood pressure is not materially increased in many cases dependent on senile degeneration and the same is true of those that arise in chronic diabetes and certain toxemias Again, the nitrites whose action is so striking in lowering exalted tension are strongly indicated and most effective in that category of cases in which there is an early and marked increase in the arterial pressure, and the heart as a consequence hypertrophied

They are often found in association with disturbances of the metabolic processes (e g, gout) and in the hyperplasia for which constant muscular strain is responsible, after removal of the cause One further point remains to be emphasized it is that in the most skilled hands sphygmographic records differ, "not only in different persons, but also on successive applications to the same person"

All instances treated either by the nitrites or the nitroglycerin in ascending doses, taught the practical lesson that while a favorable effect is exerted promptly by these remedies persistence over long periods of time is a prime necessity, otherwise the improvement gained will be speedily lost

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[6] The diagnosis of obscure aortic aneurism had been tentatively made during life owing to the differences in the pulse tracings on the two sides but the patient subsequently died, and the autopsy did not show the presence of an aneurism

DISCUSSION

ON THE PAPERS BY DRS THAYER AND BRUSH, DRENNEN, DOCK, BILLINGS, CABOT, OSLER AND ANDERS

Dr Alfred Stengel, Philadelphia—The subject of arteriosclerosis presents itself to physicians in a somewhat different light from that in which it appears to the pathologist In practical medicine we recognize it as a disease resulting from a number of causes and of importance as an intermediary condition that determines a great variety of organic diseases It is of comparatively little importance to be able to recognize arterial disease when angina pectoris, interstitial nephritis, a high grade of chronic myocarditis, or some form of central nervous disease has developed If we are to accomplish much in the treatment of the disease, it must be recognized at an earlier stage, and from this point of view two questions are of essential importance The diagnosis by direct examination and the recognition of the etiologic factors The causation is somewhat uncertain and notwithstanding the evidence brought forward by Dr Cabot, I confess myself still convinced that alcohol is an important factor, other causes of importance are overexertion in athletics and in laborious occupations, chronic toxemias and infections The importance of these latter conditions lies in the fact that they may be controlled to a certain extent, more at least than the habits of individuals I have had occasion elsewhere to state that in acute infectious diseases, when the heart and blood vessels have suffered during the attack a seemingly complete recovery may ensue, but subsequently under some stress or strain the dormant conditions in the vascular system again become apparent and advance progressively The importance of this is that the convalescence of such diseases should be conducted with greater care than has been customary in the past I remember the feeling of surprise with which I read the statement of a prominent physician speaking at a meeting of the British Medical Association to the effect that convalescence from typhoid fever should be considered to extend over the period of a year or longer and that by the exercise of care during this prolonged period the end results of the disease could be obviated The more I grow in experience of this disease, the more I become impressed with the soundness of this view Overexertion, cares and strains of all kinds should be avoided for a very long period after all of the infectious diseases, but notably after typhoid fever With regard to athletics, my experience extends over a period of some thirteen years and I have become convinced that not rarely excessive and ill directed physical exertion may lay the foundations for cardiovascular disease that may perhaps be dormant in the more active period of life, but becomes pronounced when the power of compensation begins to grow feebler with advancing age Athletics must be controlled and properly directed if good and not harm is to come from such sports With regard to the direct diagnosis of the condition, there are certain functional changes in the circulation, notably a sustained arterial pressure and a lengthening of the first heart sound, which are among the earliest physical signs The diagnosis at a period when the disease has become well established and of an advanced stage is readily made, but the recognition in the beginning is generally difficult and often quite impossible

Dr F C Shattuck, Boston—The multiplicity of the causes of arteriosclerosis has been brought prominently before us this morning, an illustration of the fact which age and experience brings home to us all—that causes in medicine are seldom single A diseased state is generally the result of several factors, the relative importance of each not being always easy to measure It seems to me Dr Cabot has shown clearly that alcoholic excess is not alone and by itself a cause of arteriosclerosis But he has not shown that it is not and may not be a contributing cause, perhaps potent His statistics deal with a single class, pauper drunkards, men who have not led lives of intellectual activity or of mental or physical strain Observation has led me to suspect that worry and the strenuous life, especially as we see it in business and some professional men, lead through defective metabolism to increased arterial tension and the widespread changes of arteriosclerosis Statistics in absolute proof of this matter are not easy, if possible, to collect In this class may not alcohol hasten and heighten arteriosclerosis? And is not this the class in which arteriosclerosis is oftenest seen? The men who tolerate alcohol best are not the brain workers and weight carriers They are men who work with their muscles outdoors, or whose occupations, temperament and environment do not involve continued strain The relation of climate to toleration of alcohol can not be ignored In fine, we really know but little about the genesis of arteriosclerosis save that it is a matter of great complexity

Dr William Krauss, Memphis, Tenn—The anatomic classification of this disease is fraught with difficulty When you recall the amount of work which has been fruitlessly expended on differentiating between croupous and diphtheritic inflammation, you can understand what I mean Dr Welch has given us a beautiful lecture He has shown us that essential arteriosclerosis is associated with changes in the intima whereby there is a division of the internal elastic lamina and a proliferation between the two layers It was Thoma who pointed out that a giving way under pressure of the outer coats of the blood vessels is what calls for other means of getting contraction, hence there is a request for an overgrowth of connective tissue in the intima to overcome that dilatation Etiologically we find the disease associated with causes that result primarily in the circulation in the body fluids of toxins producing parenchymatous degenerations in the solid organs, and it is not too much to assume that similar changes take place in the heart and vessels This primary dilatation is not so much the result of increased pressure as of diminished resistance from injury to the elastic and muscular elements in the media There may also be disease of the kidneys, and this brings up the practical inseparability of the two For instance Dr Thayer mentions malaria as a cause, but malarial fever must be severe and of long duration to produce such grave changes, and in all such cases we have fibrosis in the kidneys Severe malarial fever is also usually associated with temporary albuminuria, which permits the assumption of parenchymatous changes in the kidneys I know a man who had yellow fever twenty five years ago with suppression of the urine, that man can not drink alcohol to day without raising his blood pressure to such an extent as to cause violent throbbing in his temples, these are the people in whom alcohol will produce changes in the blood vessels There are great difficulties in the way of an etiologic classification, as attempted by Dr Thayer, from histories of cases the subjects of which have left the hospital With their present system of clinical clerks causes not heretofore recognized as factors in the disease may now be discovered It is not the diseases so much as the pathologic changes in given cases, that have a bearing on the etiology Certain irritants in the blood stream may produce inflammation in the intima and cause a proliferation resulting in intimal thickening, this may possibly be caused by the uninterrupted use of mercury as suggested by Dr Drennen When considering this problem of syphilis I should prefer to evade the lines laid down in the symposium and study syphilitic disease of the vessels as a whole Then we can classify this with Heller's *aortitis luetica*, later gummatous changes from infection through the lymphatics in the periphery, and confined to the adventitia mostly and seen in smaller arteries, next the endarteritis obliterans which occurs in still smaller vessels, and finally essential arteriosclerosis, which is more or less diffuse

Dr Charles G Stockton, Buffalo—I shall confine myself to two points and first reiterate the importance of a matter in relation to pain in the abdomen depending on arteriosclerosis which oftentimes is not suspected Such a pain not infrequently occurs as the result of the disease of the heart muscle depending on arteriosclerosis, when abdominal pain does occur in such cases the disease will be found to be rather far advanced I have seen a number of such cases and some of them I have reported All probably have noticed the abdominal pain which occurs in those who have no palpable thickening of the arteries, but which depend on arteriosclerosis In regard to the treatment, I do not think there is any doubt at all that the matter of treatment should be considered before changes have resulted in the arteries, or before the arteries have revealed changes that direct our attention to them Nevertheless I believe that when the gross lesions have appeared the condition is not absolutely hopeless, and I have pointed out that such cases are the ones the average physician will be called on to treat, for they make up a large group Some years ago it occurred to me to place non syphilitic cases who were able to lead lives marked out for them under proper management as to dietetics, exercise, medication, etc, and see what would happen Naturally this group was not large, but it offered some encouragement. I will not go into the detailed histories of these cases, but I have in mind three who were under this treatment for from between five and seven years, they had marked arteriosclerosis and manifested renal lesions and in one case there were certain suspicious central nervous symptoms These patients are still living and enjoying better health to-day than when they came under observation The plan of treatment was very simple and the same plan was adopted for all There was a restricted diet regulated exercise, the amount of fluid taken was regulated as was the amount of alcohol, and finally was followed by the systematic use of baths that would have a tendency to dilate the arterioles and capillaries without producing a general relaxation Instead of using the ordinary warm baths better results were obtained from short hot air or vapor baths, not for their eliminative effect so much as for the purpose of opening up the capillary vessels As to the use of drugs, I think that doctors differ as to the exact time when nitrites or nitroglycerin should be given In my experience I have found it necessary to give these drugs frequently if I wish to obtain a uniform effect It is far better to give them very frequently rather than two or three times a day This rule applies to the use of any nitrite I do not think the gentlemen need be alarmed when I say that nitroglycerin should be used every hour It should be remembered that patients soon become tolerant of nitroglycerin With regard to the iodids, I believe that without them we will not have successes in cases of arteriosclerosis The long continued use of the iodids the hot or vapor baths, nitroglycerin in frequent and proper doses, are all important in the treatment of arteriosclerosis in which so little stride has been made in therapeutics

Dr. S J Meltzer, New York City—Dr Thayer drew his conclusions from the conditions of the radial artery and one of his conclusions was that work, manual work, is the most essential factor in the production of arteriosclerosis It is necessary to distinguish between general and local arteriosclerosis The latter might be produced by local causes, among which we might mention (1) continued injury of a certain part, and (2) increased activity of that part. With increased activity of an organ there is a greater flow of blood through it, which is a potent factor in the production of arteriosclerosis Now, in manual work both mentioned factors are operative in the production of a local arteriosclerosis in the vessels of hand and arm, there is continual injury and increased activity which might favor an early development of arteriosclerosis in the radial artery But the presence of this localized arteriosclerosis alone can hardly be taken as an unmistakable indication of the existence of general arteriosclerosis The same argument holds good for the reversed condition, the absence of a sclerosed radial artery is no proof of the absence of an arteriosclerosis elsewhere, and the absence of a sclerosed radial artery in syphilitics who have never done manual work is no proof of their not having extensive arteriosclerosis elsewhere in the body With regard to alcohol, I wish to express great admiration for the straightforwardness with which Dr Cabot has given us his results. Dr Cabot has done much work on alcohol and his results led him to views which made him a *persona grata* in Massachusetts and elsewhere with men and women who are averse to the use of alcohol in health and in sickness I am afraid that Dr Cabot's assertion that arteriosclerosis in alcohol is a myth will be misinterpreted by this same unscientific class of public agitators. As to the correctness of his conclusions I have some doubts He stated that in the autopsies the peripheral arteries were examined He did not state that the arteries belonging to the splanchnic area were also examined We have heard to-day, in the masterly paper on the pathology of arteriosclerosis, that according to Romberg and his school it is in the splanchnic area that arteriosclerosis is liable to occur If that is so, and if Dr Cabot has not examined the splanchnic area, his conclusions that alcohol does not lead to arteriosclerosis would not yet be well supported I have a personal interest in that question Two years ago, in a paper read in Boston, I went on record in favor of the use of alcohol in disease I stated then that the effect of alcohol on the circulation is not to influence the blood pressure, but the distribution of the blood Alcohol does not increase the blood pressure, but everybody knows that alcohol causes a dilatation of the cutaneous vessels Now if these vessels are dilated while the blood pressure remains the same, there must be a compensatory constriction of the vessels somewhere in the body I suggested then that this takes place in the vessels of the splanchnic area And it is perhaps essentially in these vessels where alcohol causes sclerosis In the above mentioned paper I stated that alcohol in health is sometimes a curse, alcohol in disease is often a blessing In repeating it I would now state alcohol in disease is often a blessing, alcohol in health is very often a curse

Dr Robert H Babcock, Chicago—The thoughts I had in mind have been so clearly presented by Dr Shattuck that, as a matter of fact, he has taken the wind out of my sails I should say, however, in regard to alcohol, that convincing as Dr Cabot's statements appear to be, they impress me as not convincing in their refutation of the etiologic influence usually attributed to alcohol and as emphasizing the error likely to occur from the attempt to consider any one factor by itself For example, the case he reported was of a young man who took a quart of whisky daily for ten years Now theoretically that may be all right, but is it quite fair in estimating the influence of alcohol to draw conclusions from such a case? To be sure, whisky contains about 50 per cent of alcohol, but there may be other forms of alcoholic drinks which may be more injurious than whisky For instance, there are Germans who consume 25 to 30 liters of beer daily, and when our German confrères estimate the influence of alcohol in the production of arteriosclerosis they attribute importance not alone to the alcohol, but to other factors residing in the consumption of such enormous quantities of beer These are the intake of excessive amounts of fluid and the large percentage of nutritive material contained in the beer It is asserted by some, notably French writers, that alcohol in excess produces hypertrophy of the heart The Germans, on the other hand, as Krehl believe that such is not the case, that alcohol in concentrated form occasions not hypertrophy, but fatty degeneration but that hypertrophy may result from excessive use of beer and this only in consequence of the large amount of nutritive material and fluid taken into the system So I apprehend it may be as regards arteriosclerosis There must be something else in addition to the alcohol if chronic alcoholism is to set up arterial changes There is I believe, an element of strain on the vessels which must be considered when individuals consume 25 to 30 liters of beer daily It is particularly strain of an intermittent kind which has a causative influence, and in the consumption of large quantities of alcohol the strain exerted is of an intermittent sort. Dr Welch emphasized the fact that arteriosclerosis may be endured for many years without shortening life I desire to add that it is the individuals with arteriosclerosis who are thin who often reach advanced age, whereas, those persons whose arteriosclerosis is associated with corpulence are especially liable to be cut short in the prime of life from some of the visceral changes depending on or connected with vascular decay In such persons we are apt to recognize hypertrophy of the heart and oftentimes sclerosis of the coronary arteries.

Dr. F R. Weber, Milwaukee—I think that we have all come to the conclusion that the pathogenesis of arteriosclerosis in its various forms concerns itself primarily with changes in the arteriomuscular system and secondarily with changes in the intima We must study simple parenchyma—protoplasm of the muscle cell—and chemically consider its life nucleus and its receptors or side chains These receptors partake of the characteristics of the aldehyde and amine groups If we are to write the history of arteriosclerosis we must go back to simple chemistry, and to the action of nutrient and toxic agents on protoplasm Living protoplasm has the capacity for intense chemic reactions, and Loew has made a clever attempt at the classification of toxic agents 1 Agents acting by chemical substitution Thus the phenols react easily with the aldehyde group, and others with the amine group 2 Oxidizing agents like permanganate of potash, phosphorus, arsenic, etc 3 Catalytic toxic agents like chloroform, ether, alcohol, chloral hydrate, etc, of no intense chemical activity and yet of large toxic power 4 Protein bodies readily unite with bases, acids and alkalies Lead may enter thus and organic life deteriorate Sodium chlorid, potassium chlorid and many other salts are concerned in osmotic pressure Barium chlorid, like adrenalin, has a direct action on the walls of the arteries and increases blood pressure Administered experimentally for a length of time it produces obliterating endarteritis In conclusion we mention toxic organic bases, especially toxins and proteins which react specifically with living protoplasm A more complete system of toxicology as regards living protoplasm, and experimental work along these lines in laboratories of research, will solve the question of arteriosclerosis and aid in its prevention

Dr Boardman Reed, Philadelphia—There is one point which has been overlooked in the consideration of arteriosclerosis, and that is the matter of the dosage of alcohol Dr Cabot has proved that large doses, a pint to a quart of alcohol taken daily by old topers, do not apparently cause an undue percentage of arteriosclerosis, and it seems to me that this is not incompatible with the views generally held that alcohol may at least indirectly produce that disease It is probable, in my opinion, that when arteriosclerosis is produced, in persons who drink alcoholic beverages it is indirectly and through the gastrointestinal tract We know that alcohol is a poison to protoplasm and all the glandular structures, the liver, gastric glands, etc, that alcoholic beverages in the usual doses have the effect of lowering the action of the gastric glands Therefore, an injurious effect of alcohol on the arteries can be proved, since it is also an established fact that one way in which arteriosclerosis can be set up, is through toxins formed in the alimentary tract. Alcohol impairs digestion and thus indirectly causes arteriosclerosis, but, it is also known that when one drinks largely of alcohol in concentrated form, as in whisky or gin, less fermentation of putrefaction results than in the case of moderate beer or wine drinkers All clinicians have noted that when a man is indulging largely in alcohol he takes but little food, and only a small amount of indican may appear in the urine Therefore, may it not be concluded that the more usual indulgence in alcohol can produce arteriosclerosis through its effect on digestion? Whisky soaked men may escape the danger in this form because they partake so sparingly of food They live practically on alcohol, which is an antiseptic and present less indican in the urine, and less of the other products of a faulty metabolism than moderate drinkers The large amounts of concentrated spirits poison them in other ways, but may tend less to the production of arteriosclerosis than wine and beer in the usual quantities

Dr Henry Sewall, Denver—One of the most widespread applications of clinical observation in medicine to day is to be found in the use of certain instruments for measuring the human blood pressure These instruments are, for the most part, too one-sided or incomplete in their usefulness, they usually measure solely either the systolic or the diastolic blood pressure I was very glad to hear Dr Anders dwell on the physiologic function of the phases of heart activity, as a clinical register of arterial blood pressure and its variation, a thing that is so apt to be disregarded The pulse seems to me to manifest two different characters, either of which may indicate the presence of arteriosclerosis (1) a pulse of continuous high tension and incompressibility, (2) a pulse unaccompanied by any valvular lesion, which is hard and has a high tension at the acme of the pulse wave, but which almost collapses with diastole of the heart Now, as regards the nutrition of the tissues in general and of the arteries in particular, what are the relations of systolic, diastolic and mean arterial blood pressure? The respective values of these physiologic phases of blood pressure probably have intimate relations both to the development and effects of the pathologic condition of arteriosclerosis

Dr A McPhedran, Toronto, Canada—I desire to correct a statement made by a previous speaker by pointing out that the consumption of alcohol *per capita* in Canada is reported to be less than in any other civilized country As to the effects of alcohol on the arterial system, it is of interest to refer to a discussion which took place at the British Medical Association a few years ago in regard to an epidemic of neuritis among beer drinkers in the midland counties of England It was found on investigation that the disease was produced by arsenic with which the beer was contaminated Sir William Gairdner of Glasgow said that while whisky was much drunk in his city, he had never seen a case of alcoholic neuritis It is evident that some accessory condition is necessary to enable alcohol to produce either neuritis or arteriosclerosis It is worthy of note also that a variability in the vitality of tissue exists in different persons, and that to this may be ascribed the occurrence of disease in some while others escape As to the effects of overstrain it seems certain that a continual strain is much more injurious than an intermittent strain In the days when the British soldier had to carry his knapsack, and walk in a constrained attitude, aneurism was of much more frequent occurrence than now when the utmost freedom of body is allowed

Dr A Jacobi, New York City—I should like to ask Dr Thayer the ages of the patients who had typhoid fever and who later developed arteriosclerosis Next What can we do with those cases of arteriosclerosis dependent on syphilis? Here we use mercury and the iodids, and more or less successfully That is why it strikes me as too sweeping to attribute some symptoms of arteriosclerosis to the use of mercury I believe most of us use mercury and the iodids whenever we have such a case of arteriosclerosis of syphilitic origin Dr Welch said that one of the causes of hypertrophy of the heart was local obstruction, he said this when speaking of arteriosclerosis as a cause of myocarditis We should not look for one cause in the production of cardiac hypertrophy, there may be a combination of circumstances and a number of causes working in the same direction Among the cases are the following There are the cases studied by Gèrmain Sée, Virchow and others, of congenital smallness of large and small arteries all over the body, which cause a peculiar form of congenital chlorosis of women and sometimes men, which appears to depend on nothing but this original smallness of the arch of the aorta and the arteries in general, this may give rise to obstruction in the peripheral circulation In connection with this condition there is frequently no hypertrophy The heart may even be small, while at the same time the arteries are small or a heart of normal size with the structure not absolutely normal, the muscle may be flabby and sometimes there is a fatty degeneration In cases of pernicious anemia, where this condition is sometimes found, there is at work another cause So I think it is well worth while to doubt in connection with many cases whether the contraction of the arteries or the local obstruction in the arteries would be by itself a sufficient single cause of the hypertrophy It does not appear to be so

Dr W S Thayer—I agree with Dr Meltzer that one must make many reservations before applying figures which relate only to palpable radial arteries, to arteriosclerosis in general As I have already stated, however, it seems to me probable—and I think most clinicians will agree with me—that changes in radial arteries sufficient to justify a note in the course of a routine ward visit, in individuals under 40 or 50 years of age, are associated in a considerable proportion of cases, with sclerotic changes elsewhere Our figures and our conclusions, however, relate entirely to the palpability of the radial arteries

Dr C Travis Drennen—I am grateful to Dr Jacobi for what he has stated regarding the use of mercury in syphilis The purpose of this paper was not to disparage the use of mercury, but to protest against the methods which are and have been commonly adopted by the profession at large for many years of administering mercury for practically many years without interruption

Dr. Richard Cabot—I think that we can not accurately determine the diastolic blood pressure with Stanton's modification of the Riva Rocci instrument, but that we can measure it with an accuracy sufficient for the purposes for which the instrument is likely to be used While I have not sufficient experience to take issue with the views expressed about competitive athletics, I should like to refer the gentlemen to the March number of the *Harvard Graduates' Magazine* where there are some statistics of importance on the health of Harvard oarsmen Rowing is a form of immoderate athletics, if there is any, but the heart and arteries in these statistics do not show changes confirmatory of what has been stated I certainly agree with what Drs Shattuck and Babcock have said regarding multiplicity of the causes of arteriosclerosis The activity of alcohol as a cause acting alone I have not been able to perceive Replying to Dr Meltzer at the Massachusetts General Hospital autopsies the splanchnic area was investigated and none of the changes referred to was found I agree with Dr Meltzer, alcohol is a curse in health whether in large or in small quantities, and I act on that belief but when one is making investigations or doing research work he must confess to what he finds What I found was absolutely opposite to what was expected, and I gave the figures as I found them

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THE RELATION OF CHEST CONTOUR TO LUNG CAPACITY *

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Early in the history of medicine clinicians recognized that the shape of the chest varies in disease Thus the emphysematous or "barrel-shaped" chest, the phthisical or flat chest, and the various unilateral deformities of pleurisies, etc, are mentioned under various names by eminent writers

Apparently, however, the fact that the contour of the chest varied in different individuals not subject to disease was not recognized or was considered of no value until in the beginning of the last century, when Chomel[1] published the first work on thoracic diameters and insisted that diameters and not circumference were the true basis for estimating lung capacity The next publication along this line was by Fourmentin,[2] who, working along the lines of Chomel, determined the "thoracic index," using the formula adopted by craniologists in determining the cephalic index, i e

$$\frac{\text{Transverse diameter} \times 100}{\text{Dorsoventral diameter}} = \text{index}$$

This he found to vary for apparently normal individuals between 120 and 140 and states that whenever the index fell below or above these numbers the subjects were cachectic He also, by means of a modified pantagraph, obtained reduced tracings of the thorax, apparently being interested, however, in such abnormalities as pleurisies and tuberculosis only

A few years later (1884), E Maurel,[3] realizing that thoracic measurements are for the purpose of estimating lung capacity, using a cyrtometer for the purpose of making tracings of the chest contour, arrived at the following conclusions

1 "Perimeter" is not a satisfactory basis on which to estimate lung capacity because for the ellipsoidal figures having an equal perimeter the ones whose diameters most nearly approach an equal value, contains the greatest area

2 The method of estimating capacity by means of anterioposterior and transverse diameters is more accurate than by means of the perimeter

3 The most accurate method is by means of the contour area as taken by the "cyrtometer," i e, the graphic representation on cross-section paper ruled in sq cm of a shape of cross section of the chest

Maurel, also, by using the thoracic index, confirmed the finding of Fourmentin regarding the average index

Since this time numerous observations have been made by clinicians and anthropologists as regards the two diameters of the thorax, but it remained for E O Otis[4] to determine their average measurements These he gives as 7 3 inches ((18 5 cm) for the anteroposterior and 9 6 inches (24 3 cm) for the transverse diameter

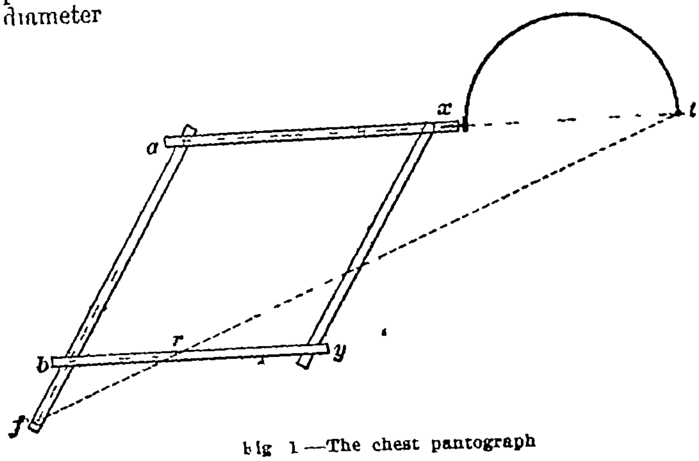

Fig 1 —The chest pantograph

In 1897 Hutchinson,[5] from measurements of enlisted men, determined the average index of the chest Instead, however, of using the index of Fourmentin he adopted the less cumbersome method of dividing the smaller (dorso-ventral) diameter by the larger (transverse) diameter By means of this formula he determined the average index to be 0 725 Contrary to the usual belief, however, he makes the following unique assertion

1 The tubercular type of chest is not a flat chest, as is usually taught, but one tending toward the round or barrel shape, basing his conclusions on the indices of the few but well-selected cases of tuberculosis the measurements of which he was able to obtain

2 The round type of chest is an undeveloped chest because of the following considerations

a A study of comparative anatomy shows that the higher we rise in the scale of mammalia the more the transverse diameter increases at the expense of the dorso-ventral

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs V C Vaughan Frank B Wynn and Joseph McFarland

[1] Chomel Mensuration du thorax Gaz de Hop Paris 1828 9 vol 1, p 213

[2] Fourmentin Emil J J F Etudies precises sur les deformations de la poitrine avec applications a la pleuresie et a la phthisie indices thoracique Paris 1874 No 411

[3] Maurel E Mensuration de cage thoracique Bull de la Soc d Anthropometrie d Paris 3 S vol x p 345 and De la Cyrtographie Stethometrie et Stethographie Bulletin de Therap etc Paris 1887 vol cxiii p 450

[4] Otis E O International Med Mag, vol iii p 85

[5] Hutchinson Woods Some Deformities of the Chest in the Light of Its Ancestry and Growth The Journal A M A vol xxix Sept 11 1897 p 512

b The growth of the human thorax both during gestation and childhood shows a corresponding increase of the transverse at the expense of the dorso-ventral diameter

As one reviews the literature of the subject of the thoracic indices or contours, he is struck by the frequency of reference to lung capacity, but still more striking is the paucity of observations on capacity and the utter lack of data showing the relation between either indices or contours and capacity The object of the work intended in the present paper is to determine, if possible, if there is any relation between contour areas, contour indices and lung capacity

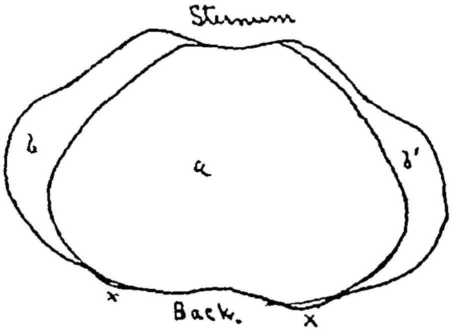

Fig 2—Superimposed tracings at expiration showing the difference in area between the broad and deep chests The broad chest is a tracing representing the contour of the chest of one of the oarsmen of the U S Lifesaving Crew at Evanston (Note the prominent latissimus dorsi muscles x and x) The tracings of the deep chest is of an individual of sedentary habits

METHODS

The data consists of observations made on 119 individuals (male), students of medicine in the medical department of Northwestern University

Observations—The observations consist of

1 Thoracic diameters

a Dorso-ventral during inspiration and expiration

b Transverse during inspiration and expiration

2 Contour areas (chest pantograms) taken at the end of inspiration and expiration

3 Contour index determined by the formula of Hutchinson dorso-ventral diameter divided by the transverse diameter

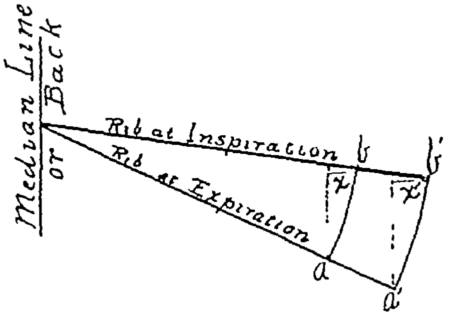

Fig 3—Illustrating geometrically the influence of increased linear dimension on relative expansion The greater the breadth or depth the greater the expansion in the dimension in question on inspiration

4 Lung capacity

The Apparatus—The diameters were taken with a pair of calipers (pelvimeters), a description of which is unnecessary The lung capacity was obtained by means of the wet spirometer

The contour-areas or cross-sections were taken by means of the chest pantograph of Hall[6] (Fig 1) This instrument consists of a modified artist's pantograph, the modification consisting of a semicircular brass rod attached to the distal angle (x) of the rectangle of the pantograph for the purpose of encircling the body, the brass rod being so attached at x as to permit of its rotating through an arc of 180 degrees, and so permits a tracing of the opposite side of the body

The apparatus is attached to a table fitted at one side with a back-rest at right angles to the edge of the table The patient, being stripped to the waist, is then seated beside the table on an adjustable stool, with his back squarely against the back-rest, and the tracing-point (T) of the brass rod then placed against the side away from the table The subject having been told to rigidly maintain his position, is instructed to exhale The tracing-point is then swept rapidly but accurately across the back to the opposite side, then turned through an angle of 180 degrees, and swept along the front of the chest until the point from which the tracing was started is reached A sheet of cross-section paper having been placed under the recording point (r) of the pantograph, this gives a tracing of the thorax in expiration If a tracing of the thorax in inspiration is desired, the patient is instructed to inhale to his full capacity, and the tracing-point is again swept back to the opposite side, i e, the one against the table Since the patient is against the back-rest all the time it is not necessary to retrace the contour of the back The cross-section or ordinate paper used was ruled in 2 mm squares and the pantograph was so arranged that the figure was reduced to one-fifth the original size, so that one square =1 sq cm

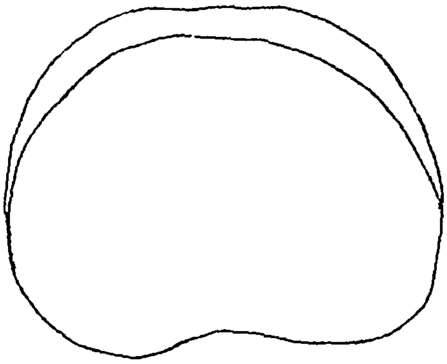

Fig 4—Tracing showing the contour of a round chested (high index) individual a druggist No athletics Note the evenness of the contour

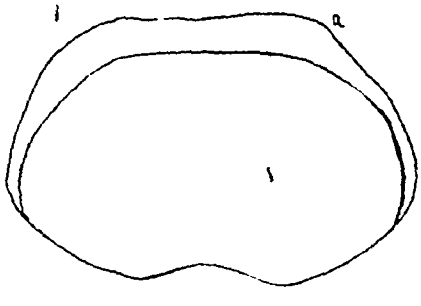

Fig 5—Tracing showing the contour of a broad chested (low index) individual, an athlete (pitcher in baseball team) Note the prominence of the right pectoral muscle (a)

This gives one a tracing which is of a convenient size for use and for filing It seems pertinent to the subject to call attention to the fact that one acquires at a single observation the following data 1, The accurate configuration of the thorax at any desired level, 2, the area at expiration and inspiration, 3, area expansion i e, the difference between area of inspiration and expiration, 4 diameters, both dorso-ventral and transverse 5 diameter expansion for both dorso-ventral and transverse, b, countour index or the ratio between the dorso-ventral and the transverse diameter

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[6] Hall W S The Chest Pantograph THE JOURNAL A M A Feb 28 1903 vol xv p 567 and The Evaluation of Anthropometric Data THE JOURNAL A M A vol xxxvii Dec 21 1901

THE EVALUATION OF THE DATA

Instead of using the method of averages for evaluating measurements, the median value was obtained by the Hall-Quetelet[7] method, the median value being that value which is so located in the whole series of observations of a single measurement of any group, that there are as many below it as above it i e , that the number of values which it exceeds is equal to the number of values which exceed it "

TABLE 1 CLASS 1 SMALL CHESTS

No of Individual	Height, Standing	Height Sitting	Dorsoventral Diameter at Expiration	Dorsoventral Diameter at Inspiration	Dorsoventral Expansion	Transverse Diameter at Expiration	Transverse Diameter at Inspiration	Transverse Expansion	Lung Capacity	Contour Area at Expiration	Contour Area at Inspiration	Contour Expansion	Thoracic Index
1	181	92 5	17	20 5	3 5	27	31	4	3400	[illegible]	714	114	661
2	173 5	90 5	16	20	4	27 5	30	2 5	3700	565	680	115	666
3	174	91 7	14	19	5	22 5	27	4 5	2500	470	545	75	703
4	173	90	17	19 5	2 5	27	29 5	2 5	3700	655	735	80	661
5	178.8	93 3	17	21 7	4 7	27	30	3	3770	505	634	124	723
6		91	16 5	19 5	3	26	28	2	3000	495	595	100	696
7	177 2	93 2	15 1	18 5	3 4	28	31	3	3560	495	560	65	566
8	175	92	17	21	4	26	29	3	4200	530	645	95	724
9	172 3	85	16 5	19 5	3	24 5	27	2 5	2450	512	605	90	722
10	171	90	15	21	6	28	31	3	4000	565	720	155	677
11	168 5	90	16	18 5	2 5	23 5	25 5	2	3400	515	595	80	725
12	173	92	16 5	20	3 5	25	28	3	3500	500	585	85	714
13	176	93 5	15 5	19	3 5	24	28	4	3200	500	575	75	678
14	175 5	94 5	16	19 5	3 5	26	27 5	1 5	3400	430	555	125	709
15	175	90	17	22 5	5 5	27	31	4	3400	595	710	115	725
16	167	90	17	19	2	21 5	26 5	5	3600	485	600	115	717
17	169	86 5	15 5	18 5	3	26 5	28 5	2	2800	440	525	85	652
18	170 4	87 5	16 5	20	3 5	25 7	28	2 3	3560	490	610	120	714
19	171	86 6	15	18	3	25	27	2	2750	455	560	105	666
20	172	89	15	18	3	25	27	2	3170	460	590	130	666
21	182	93	17	21 3	4 3	26 5	30	3 5	4170	590	695	105	725
22	180	93	16	20	4	25 5	28	2 5	3950	510	600	90	714
23	179 5	90 5	17	21	4	27 5	29 5	2	3500	450	560	110	711
24	175	92	14	19	5	26	28	2	2400	510	610	100	678
25	167	86	14	19 5	4 5	25 5	28 5	3	2950	425	580	155	684
1	180.7	96 5	17	21	4	24	27	3	4280	575	670	95	777
2	170	89	16 5	20 5	4	24	26 5	2 5	3300	455	530	75	773
3	160	84 5	14 5	19	4 5	23 5	26	2 5	3000	455	535	80	730
4	189	96	15 5	22	6 5	25 6	27	1 4	2680	525	620	105	811
5	161	84	15 5	20	4 5	25	26	1	3230	345	415	65	760
6	168 5	90	16 5	21	5 5	25	27	2	3750	455	520	65	777
7	181	87 5	16	21	5	23	27	4	3100	430	520	90	777
8	170	88	17	21 5	4 5	28 5	28	4 5	3350	525	630	105	767
9	171 5	90	17	20 5	3 5	24	27	3	3400	445	550	105	759
10	181	91	16 5	22	5 5	25 5	30	4 5	3970	540	680	140	733
11	172 5	90	16 5	21	4 5	24	27 8	3 8	4300	515	600	85	755
12	182 5	92	17	22	5	26 5	28 5	2	3000	460	565	105	772
13	170	91 6	14 5	19 5	5	23 5	26	2 5	2630	380	510	130	730
14	167	86 8	16	19 5	3 5	25	26 5	1 5	3200	510	620	110	736
15	169	89 1	17	20	3	21 5	24	2 5	2500	435	550	115	838
16	170	88	17	21 5	4 5	24 5	26 5	2	3100	490	625	185	811
17	184	93	17	23	6	26 5	28 5	2	3700	600	735	135	807
18	179	91	16	21	5	24	27	3	4300	425	515	90	777
19	172 2	93	17	20 5	3 5	26	28 5	2 5	4000	520	635	115	788
20	172	89 5	16	20	4	24 5	26	1 5	2800	450	530	80	769
21	181 6	93 5	17	22 5	5 5	24 5	27 5	3	3940	565	700	135	818
22	172 4	91	15	20 5	5 5	24	26	2	3600	480	620	140	788
23	183	92 5	16 8	20 5	3 8	24	26 5	2 5	3150	465	555	90	773
24.	175	94 5	17	20 5	3 5	24 7	28	3 3	2400	560	690	130	731
25	179	91	15 5	21	5 5	25	27 5	2 5	2800	490	595	105	763
26	187	85	16	20 5	4 5	25 5	28 5	3	3200	555	635	80	732
27	155	81	16 5	20	3 5	22 5	24 5	2	2030	460	520	60	814

The data was first transferred to cards, each card giving all the measurements of an individual Then to determine the median value of any measurement the two extremes are found Thus, for example, it is found that the height of 116 individuals varies between 152 cm and 192 cm This gives a difference of 40 cm between the shortest and the tallest individual of the series

Dividing the series into ten groups, with a difference of 4 cm , we find the following

152—156—160—164—168—172—176—180—184—188—192
1 2 6 16 35 23 16 14 2 1

Since there are 116 measurements in the series, it is necessary only to determine the fifty-eighth measurement to obtain the median value[8] This is obtained by the formula

$$M = a + d\left(\frac{\frac{n}{2} - l}{m}\right)$$

M = Median value
a = minimum value of median group (the group containing the median value)
d = difference between groups
n = total number of observations
l = sum of observations below the median group
m = number of observations in the median group
Substituting

$$M = 168 + 4\left(\frac{\frac{116}{2} - 25}{35}\right) = 170\ 6$$

TABLE 2 CLASS 2 MEDIUM SIZED CHESTS

No of Individual	Height, Standing	Height Sitting	Dorsoventral Diameter at Expiration	Dorsoventral Diameter at Inspiration	Dorsoventral Expansion	Transverse Diameter at Expiration	Transverse Diameter, at Inspiration	Transverse Expansion	Lung Capacity	Contour Area at Expiration	Contour Area at Inspiration	Contour Expansion	Thoracic Index
1	171	87 5	17 5	20	2 5	29	32	3	4500	615	780	165	625
2	175	93 5	18	22	4	28.5	31	2 5	4350	610	705	95	705
3	156	92 5	18	20 5	2 5	26 5	30	3 5	3600	505	640	135	683
4	170	87 5	18	20 5	2 5	26	30	4	3400	625	735	110	683
5	178	92	18	22	4	26 6	31	3 4	3050	510	625	115	709
6	175 5	93	18	20 5	2 5	26 5	29	2 5	3650	495	620	125	707
7	180 4	94 4	18 5	21 5	3	28	30 2	2 2	3700	600	695	95	712
8	170 5	87 5	17 3	21	3 7	26	29	3	3700	500	670	170	724
9	171	90 5	19	24	5	27	33 5	6 5	4000	610	755	145	716
10	172 5	88 5	18	21 5	3 5	28	32	4	3600	505	595	90	671
11	173 5	93 5	17 8	20 5	2 7	25 5	31	5 5	3450	510	610	100	661
12	170	88 7	19	21	2	28	29 5	1 5	3450	545	660	115	711
13	181	92	19	23	4	30	33	3	3800	640	745	105	697
14	172 5	89 7	18	20 5	2 5	25	28 5	3 5	3230	430	550	120	719
15	167	86	18	20 5	2 5	27	29	2	3700	455	660	105	707
16	175	90	18 5	20	1 5	26	28	2	3200	490	575	85	714
1	180	91 2	18	21 5	3 5	27	29 7	2 7	3800	606	680	74	728
2	170	87	17 7	19	1 3	26	28 2	2 2	3920	495	655	160	730
3	181 5	94 8	18 5	21 5	3	26	28 5	2 5	4350	610	690	80	754
4	170	89	19	22	3	26 7	28 5	1 8	3600	563	672	110	772
5	166	86.5	17 5	21	3 5	25	28	3	3000	515	690	75	750
6	172	92	18 5	21 5	3	26	28	2	3000	640	730	90	760
7	172 5	90	19	22	3	24	25 5	1 5	2700	445	500	65	802
8	185	95 8	17 5	21	3 5	26 7	28	2 3	3000	420	535	115	750
9	162	83	17 5	20 5	3	24	27 5	3 5	2650	460	545	85	745
10	171	80	18	24	6	26	28	2	3450	625	705	80	857
11	162 5	89 5	18	22 7	4 7	26 5	28	1 5	2800	545	665	120	812
12.	170 5	90	17 6	22 7	5 1	24 3	27 6	3 3	3200	400	525	125	822
13		93 5	19 0	22.5	3 5	27	31	4	3200	540	690	150	728
14	166 5	90	17 5	21	3 5	24	27 5	3 5	2700	560	655	95	768
15	180	92 8	17 3	24 8	6 5	27 3	29 3	2	4250	525	685	160	818
16	165	86	19	24	5	28	30	2	2800	430	555	125	800
17	168	91	17 5	20 5	3	22	25 5	3 5	3400	515	585	70	804
18	176	91 8	17 5	21 5	4	22 5	27	4 5	2690	515	605	90	770
19	174	91	19	22 5	3 5	27	29	2	3500	620	715	95	776
20	178	92	19	22	3	27	30	3	4280	640	720	80	738
21	168	98 2	18	20	2	25	27	2	3400	540	635	95	740
22	172 5	90	17 5	21	3 5	24 5	27	2 5	2900	475	560	85	777
23	167	91 5	18	22	4	24 5	30	5 5	3980	430	525	95	738
24	168 4	90 2	17 5	21	3 5	24	27	3	3780	585	645	80	777
25	163	85	18 5	25	6 5	27	30	3	3700	560	650	90	838
26	170 5	88	18.5	22 5	4	26 5	29	2 5	4200	620	705	85	775
27	178 5	90	17 8	22	4 2	25 3	29	3 7	3500	550	635	85	758
28	175	91	18 5	22	3 5	27	28 5	1 5	3800	515	635	120	772
29	172 5	90	18 7	23 5	4 8	27	30	3	3900	550	690	140	783
30	174	93 7	18 5	23	4 5	27	30 5	3 5	3300	480	625	145	754
31	180 4	94 5	17 5	20 5	3	25	27 5	2 5	4140	515	590	75	745
32	166	88 5	17 5	20 5	3	24 5	27	2 5	3290	495	585	90	759
33	181	93	19	22 5	3 5	27 5	30	2 5	2750	547	647	100	750
34	177	94 5	19	25	6	25	29	4	5200	610	730	120	862

In arranging the cards, they were first divided into three classes according to size, that is, according to the length of anteroposterior diameter Those having a diameter falling between 14 and 17 with a median value of 16,863 cm , were called small-chested (Class 1) Those whose dorso-ventral diameter fell between 17 and 19 (median value 18,143) were called medium-sized (Class 2), while those whose anteroposterior diameter was over 19 (median value 19 454), were called large chests (Class 3)

This in further calculation throws out of consideration the element of size which must be eliminated before area and capacity may be compared with contour

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[7] Quetelet Anthropometric ou mêsure des different facultés de l homme Bruxelles 1870

[8] For a full discussion of the subject of median values the reader is referred to an article by W S Hall in THE JOURNAL A M A vol xxxvii Dec 21 1901

TABLE 3 CLASS 3 LARGE CHESTS

No of Individual	Height, Standing	Height, Sitting	Dorsoventral Diameter at Expiration	Dorsoventral Diameter at Inspiration	Dorsoventral Expansion	Transverse Diameter at Expiration	Transverse Diameter at Inspiration	Transverse Expansion	Lung Capacity	Contour Area at Expiration	Contour Area at Inspiration	Contour Expansion	Thoracic Index
1	170		19 5	22 8	3 3	25 8	28 5	2 7	3400	475	580	114	705
2	175		20	25	5	30	33	3	5400	628	798	170	.757
3	171 2		21	23	2	29 5	30 5	1	4000	642	715	73	754
4	178	95	21 5	25	3 5	28	33	5	4150	700	870	170	757
5	177 3	88	22 5	24 5	2	31 3	34 5	3 2	4100	720	838	113	710
6	174 5	92 7	20	23 8	3 8	27	31 5	4 5	3800	715	884	169	755
7	167	89	20	22 5	2 5	31	34	3	4000	800	916	116	662
1	175		20	25	5	23	27 5	4 5	4800	639	816	177	900
2	172 5		19 5	24	4 5	26	29 5	3 5	4600	663	815	152	813
3	170 3		23 5	26	2 5	32 5	34	1 5	3300	540	628	88	765
4	166 8		20	23	3	24 7	26 5	1 8	3700	610	699	89	868
5	163 0		20 7	24	3 3	28 8	31 4	2 6	3800	672	794	122	764
6	172 5	89	21	22 5	1 5	27 5	29 5	2	2600	670	745	75	762
7	180 5	94	24	28	4	31	33 5	2 5	3040	605	751	146	834
8	180	96	20	27	7	27	34	7	3500	595	798	203	794
9	165	87 2	19 8	21 5	2 7	26 8	28	1 2	3200	600	670	70	762
10	177	90 5	20	23	3	25 5	28 5	3	3350	515	623	113	807

Each class was then subdivided into broad and deep chested by means of the contour indices, i e, those chests in Class 1 whose index fell between 0 596 and 0 725 (median value 690) were called broad, while those whose index fell between 0 730 and 0 833 (median value 0 773) were called deep The same divisions being made for classes 2 and 3, it was found that the median index of the broad chests of Class 2 was 0 698, while that of the deep chest was 0 783 A similar subdivision of Class 3 showed the median index of the broad chest to be 0 728, while that of the deep chest is 0 808

TABLE 4—THE RELATION OF CHEST CONTOUR TO LUNG CAPACITY

OBSERVATIONS	Class 1 Small Chests		Class 2 Medium Chests		Class 3. Large Chests	
	Broad	Deep	Broad	Deep	Broad	Deep
Coutour index $= \frac{\text{D V Insp}}{\text{Trs Insp}}$	690	773	698	783	728	808
Contour area at expiration	501 sq cm	479 sq cm	510 sq cm	535 sq cm	669 sq cm	611 sq cm.
Contour area at inspiration	612 sq cm	587 sq cm	658 sq cm	646 sq cm	802 sq cm	734 sq cm
Contour expansion	111 sq cm	108 sq cm	118 sq cm	111 sq cm	133 sq cm	123 sq cm.
Dorsoventral diameter at expiration	16 5 cm	16 9 cm	18 0 cm	18 4 cm	20 6 cm	20 9 cm
Dorsoventral diameter at inspiration	19 9 cm	20 9 cm	21 3 cm	22 4 cm	23 8 cm	24 4 cm
Dorsoventral expansion	3 4 cm	4 0 cm	3 3 cm	4 0 cm	3 2 cm	3 5 cm
Transverse diameter at expiration	26 3 cm	25 0 cm	27 5 cm	26 5 cm	28 9 cm	27 3 cm
Transverse diameter at inspiration	28 8 cm	27 0 cm	30 5 cm	28 6 cm	32 1 cm	30 3 cm
Transverse expansion	2 5 cm	2 0 cm	3 0 cm	2 1 cm	3 2 cm	3 0 cm
Lung capacity	3445 cu cm	3366 cu cm	3700 cu cm	3450 cu cm	4121 cu cm	3679 cu cm

CONCLUSIONS

A study of the results tabulated above shows the following

1 For chests of the same size, those having low indices, i e, broad chests, have a greater contour-area (cross-sectional area) both in expiration and inspiration, than do the deep chests A glance at the superimposed tracings (Fig 2) makes this plain If the area of the deep chest be represented by (*a*) the area of the broad chest must be represented by a+b+b′, i e the areas at the sides

2 Of still more importance, however, is the fact that the broad chests have an area expansion greater than that of the deep chests That the increase is small is true, but the uniformity with which the broad chest shows the greater area of expansion shows beyond question that the rule is a general one

3 For the broad chests the greater expansion is in the transverse diameter, while the deep chests have their larger expansion in the dorso-ventral diameter This is contrary to the statement of Hutchinson that the greater expansion of the broad or "bellows" type of chest is in the anteroposterior diameter

Inasmuch as the ribs move upward and outward and upward and forward during inspiration, it is readily seen that every centimeter added to either diameter increases its capacity for expansion Thus in Figure 3 if the point a is elevated to the point b, it must pass outward a distance of x, but the point a′ in being raised to the point b′ must pass outward a distance of x′, necessarily greater than x, by construction

4 Since lung capacity is a measure of volume expansion, it should follow that if the broad chests have a greater contour area and contour expansion, they should have a greater capacity The figures of the table prove beyond a doubt that the broad chests have a greater capacity, not for one size only, but for all sizes

That lung capacity (volume expansion) is the real criterion of resistance to tuberculosis has only a negative proof (persons with deficient expansion being more prone to develop tuberculosis) is conceded, yet one can not but feel justified in concluding that the person with a broad chest, with its uniformly attendant increased capacity, has the better chance of resisting the inroads of tuberculosis With this fact in view, one can not but add his plea to that of Hutchinson, for some means to develop the thorax in the transverse diameter

SUMMARY

1 By means of the contour index chests may be divided into broad and deep, having low or high indices respectively

2 For broad chests the greater expansion is in the transverse diameter

3 For deep chests the greater expansion is in the dorso-ventral diameter

4 Broad chests have a greater cross-sectional area both for inspiration and expiration, than deep chests

5 Broad chests have a greater area expansion than deep chests

6 Broad chests have a greater capacity (volume expansion) than do deep chests

7 Broad chests having uniformly a greater capacity would seem to offer greater resistance to tuberculosis

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Chilblains a Tuberculous Affection—A Danish physician, G E Permin, publishes a communication in the *Ztft f Tuberkulose*, v No 5, arguing that erythema pernio, the common chilblain, is probably a tuberculous exanthem The action of cold enlarges the vessels, and this affords the toxins the opportunity to get in their work The stage of the pulmonary affection has no influence on the development of the complication

MATHEMATICAL RELATIONS OF CERTAIN CHEST MEASUREMENTS *

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During a recent investigation of 'The Relation of Chest Contours to Lung Capacity," made by Dr F F Malone,[1] in the physiologic laboratory of the Northwestern University Medical School, it occurred to me, first, that there should be a method of computing area expansion from the diameters, and second, that there should be a method of computing lung capacity from area expansion and thoracic length

The chest contours were traced through the help of the chest pantograph, which I devised[2] One of these contours is shown in Figure 1 The one chosen for this figure happens to represent a chest of unusually high index, i e, an unusually deep chest The inner line shows the contour of the chest at the end of the forced expiration, while the outer line gives the contour at the end of the forced inspiration

The cross-sectional area or contour area of the chest at inspiration or at expiration may be easily determined by inspection Each of the large squares represents 25 square centimeters, each of the small squares 1 square centimeter The area expansion is the difference in area between the contour of expiration and that of inspiration Extended observation has shown that the area expansion bears a very close relation to the lung capacity, as set forth by Malone[1] Furthermore, that it is the most important measurement that can be made on the thorax, inasmuch as it is an index of lung capacity and of extent of mobility and of the symmetry of expansion

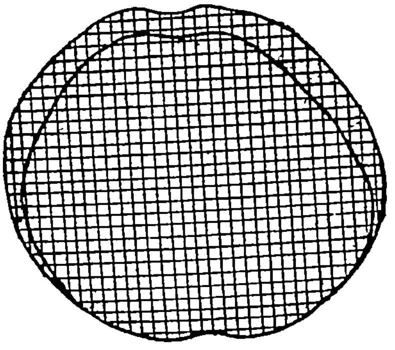

Fig 1.—Thoracic contour of R. B 5 7, 02
Dorsoventral diameter at expiration $D = 24\ 3$
Dorsoventral expansion $e = 2\ 3$
Transverse diameter at expiration $T = 28\ 5$
Transverse expansion, $e' - 2\ 5$
Contour index, $I = \frac{D}{T} = 853.$
Mid-diameter, $\frac{D+T}{2} = 26\ 4$
Radial expansion, $\propto = \frac{e+e'}{4} = 1\ 2.$
Area expansion $E = \pi \propto \left(\frac{D+T}{2} + \propto\right) = 104\ 4$
Length of thorax $L = 30\ 2$
Lung capacity $C = L \times E = 3153$ c c.
Lung capacity as measured $= 3100$ c c

There are only a few appliances with which the area expansion can be directly determined, and most of these, as in the case with the chest pantograph, while simple in construction and not very bulky, require a considerable amount of practice to acquire the accuracy necessary in such observations and are better adapted for use in laboratories and large dispensary and hospital clinics than in the private office of the practitioner

It can hardly be questioned that the contour expansion or area expansion and the lung capacity are, next to the condition of lung tissue, the most vital points to be determined in an examination of the chest But both of these determinations require apparatus not always convenient for the general practitioner to have in his private office

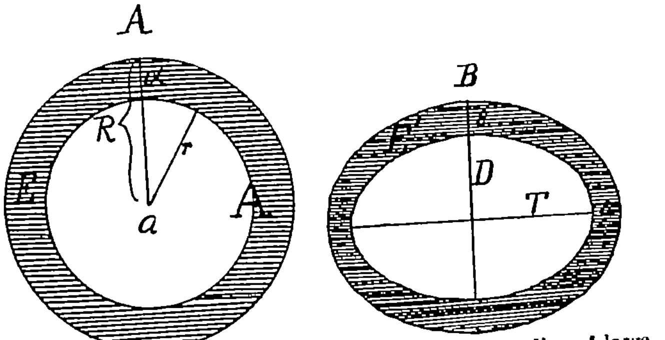

Fig 2.—Let A equal area of large circle R equal radius of large circle, a equal area of small circle, r equal radius of small circle, E equal area of shaded ring (E = A − a), $\propto$ equal the difference of radii ($\propto = R - r$) To find the area of the ring (expansion) in terms of $\propto$ and r

(1) $A = \pi R^2$
(2) $a = \pi r^2$
(3) but $R = r + \propto$
(4) $A = \pi (r + \propto)^2 = \pi (r^2 + 2r\propto + \propto^2) = \pi r^2 + 2\pi r \propto + \pi \propto^2$
(5) but $E = A - a$
(6) $E = \pi r^2 + 2\pi r \propto + \pi \propto^2 - \pi r^2 = 2\pi r \propto + \pi \propto^2$
(7) $E = \pi \propto (2r + \propto)$

In the elliptical figure (B) a very close approximation to the area can be obtained by using half the average of the two axes (D and T) in place of the radius (r) The mid diameter equals the average of the axes, $\left(\frac{D+T}{2}\right)$, and the mid radius equals half the mid-diameter, or $\frac{D+T}{4}$ Substituting this mid radius for the radius (r) in equation (7) we obtain the simple formula

(8) $E' = \pi \propto \left(2\frac{D+T}{4} + \propto\right) = \pi \propto \left(\frac{D+T}{2} + \propto\right)$

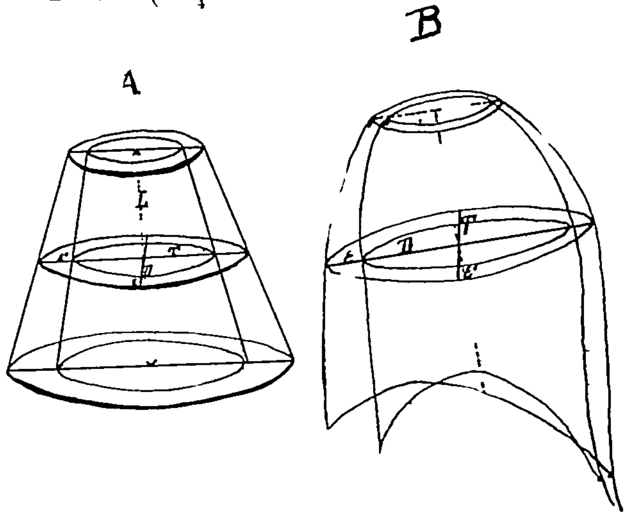

Fig 3.—A shows the frustrum of a cone to which has been added a certain volume by the increase of the diameter The added volume is equal to the average area of expansion taken at the mid height, multiplied by the altitude or length But the average area expansion $E = \pi \propto \left(\frac{D+T}{2} + \propto\right)$, and the altitude equals L.

Fig 3.—B. The similarity of the mathematical conditions of the chest to those of the geometric figure just described is apparent in the figures. The area expansion at the nipple plane approximates the average area expansion whose determination one can easily make The length L may be established by experiment Note that the act of inspiration adds something to the length as well as to the lateral dimensions

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs. V C. Vaughan Frank B Wynn and Joseph McFarland.

[1] Malone The Relation of Chest Contours to Lung Capacity See preceding article, page 783

[2] Hall The Chest Pantograph THE JOURNAL A M A. Feb 28, 1903 vol. xv p. 567

It is my object to set forth briefly an accurate and simple method of determining both area expansion and lung capacity with the help of steel calipers or of the obstetrician's pelvimeter

TO DETERMINE THE AREA EXPANSION

Note that in Figure 1 the area expansion is distributed around the front and sides of the chest This is due to the fact that in the use of the chest pantograph the back of the subject rests against a fixed support This naturally throws all of the expansion of the dorso-ventral forward If the tracing has been made in such a way as to distribute the expansion evenly all around the contour of expiration it would have been quite as accurate and would have given the same area expansion, but the latter would have appeared as a complete ring rather than as a crescent

Let us compute the area of a ring between two concentric circles of unequal radii Figure 2A shows two such circles The expansion area represented by the shaded ring E equals the difference in area of the two circles (E=A—a), which we see from the mathematical reasoning (see description of figure) equals the product of three quantities very easily measured ($E=\pi$ times α times $(2r+\alpha)$)

The contour of the chest, however, approaches an ellipse rather than a circle in its outline Let us adapt the method to the ellipse This adaptation given under Figure 2B, shows that the area expansion between the ellipses is equal, within a very close approximation, to the product of three quantities, which, in turn, are determined by making three simple measurements namely 1, the dorsoventral diameter, D, 2, the transverse diameter, T and third, the average radial expansion, α

The formula $E=\pi\alpha\left(\frac{D+T}{2}+\alpha\right)$

Let us apply this simple formula to actual measurements of the human chest, and thus put it to a practical test The accompanying tables give the results from the chest measurements of 119 normal men, classified as to size into three classes, each class being subdivided into broad-chested and deep-chested groups on the basis of the contour index The contour index is obtained by dividing the dorsoventral diameter at expiration by the transverse diameter at expiration, according to the formula of Hutchinson[3] The broad chests, therefore, have lower indices than the deep chests The values given in each column represent the median values rather than the averages The advantages of the median value over the average are set forth in my paper on the "Evaluation of Anthropometric Data"[4]

Applying the formula to the value in the first column, one must first determine the value of α This being the average radial, expansion is obtained by taking one-half the average expansion of the two diameters, or one-fourth the sum $\alpha=\frac{\epsilon+\epsilon'}{4}$

Therefore the radial expansion, $\alpha=\frac{3\ 4+2\ 5}{4}=1\ 475$

The mid-diameter, $\frac{D+T}{2}=\frac{16\ 5+26\ 3}{2}=21\ 4$ The area expansion may be very easily obtained from these values $E = 3\ 1416 \times 1\ 475 \times 22\ 875 = 106$ sq cm One may simplify the multiplications without appreciably modifying the results by using approximate factors $E = 3\ 1/7 \times 1\ 48 \times 22\ 88 = 106\ 5$ sq cm, which differs from the first result by only 5 sq cm—far within the necessary error of observation

Note that the area expansion as given in the table, E is 111 sq cm This was determined graphically by the chest pantograph, and the error of observation has a range of not less than 10 sq cm, so that the area expansion, as determined by the method above described is quite as reliable as that determined by the pantograph

MATHEMATICAL RELATIONS OF CERTAIN CHEST MEASUREMENTS

OBSERVATIONS	Class 1 Small Chests		Class 2 Medium Chests		Class 3 Large Chests		Average
	Broad	Deep	Broad	Deep	Broad	Deep	
Contour index $=\frac{D}{T}=$	690	773	698	783	728	808	
Contour area, at expiration	501 sq cm	479 sq cm	510 sq cm	535 sq cm	669 sq cm	611 sq cm	
Contour expansion in area (E)	111 " "	108 " "	118 " "	111 " "	133	123	117 3
Dorsoventral diameter, expiration (D)	16 5 cm	16 9 cm	18 0 cm	18 4 cm	20 6 cm	20 9 cm	18 55
Dorsoventral expansion (E)	3 4	4 0 "	3 3 "	4 0	3 2	3 5 "	3 566
Transverse diameter, expiration (T)	26 3 "	25 0 "	27 5 "	26 5 "	28 9	27 3 "	26 91
Transverse expansion (F)	2 5	2 0 "	3 0 "	2 1 "	3 2	3 0	2 633
Lung capacity (C)	3115 c c	2966 c c	3700 c c	3450 c c	4121 c c	3679 c c	3627
Radial expansion, $\alpha=\left(\frac{\epsilon+\epsilon'}{4}\right)$	1 475 cm	1 500 cm	1 575 cm	1 525 cm	1 600 cm	1 625 cm	Brd 1 5[illegible] Deep 1 [illegible]
Mid diameter $=\frac{D+T}{2}$	21 "	20 95 "	22 75	22 45 "	24 75	24 10	22 73
Area expansion, $o=\pi\alpha\left(\frac{D+T}{2}+a\right)$	106 5 sq cm	105 5 sq cm	121 0 sq cm	115 0 sq cm	132 5 sq cm	131 5 sq cm	118 2
Thoracic length index $=\frac{C}{o}=\frac{C}{o'}$	32 3 / 31 0 = 31 65	31 9 / 31 1 = 31 5	30 6 / 31 3 = 30 95	30 0 / 31 0 = 30 5	31 0 / 30 9 = 30 95	28 0 / 29 9 = 2895	30 7
Length of thorax	32 8	32 4	32 3	32 0	32 5	31 4	32 3
Height sitting	91 0	90 8	90 3	90 9	91 0	89 1	90 52

It may be interesting to note in this connection that the average area expansion as determined by the pantograph—117 3—differs from the average—118 2—as determined by the calipers and the formula by only 9 sq cm, a very close approximation on 119 individuals (See column of averages)

To apply the formula to the individual case one may take the measurements as given in Figure 1 The mid-diameter equals 26 4, the radial expansion 1 2, the area expansion equals 3 1416×1 2×27 6=104 sq cm An inspection of the figure shows the area expansion is more than 100 and less than 110 The determination by calipers is quite as accurate as that by the graphic pantograph method

TO DETERMINE THE LUNG CAPACITY

The usual method to find the lung capacity is to direct the subject to fill the lungs to the maximum, then exhale as much as possible, forcing the air into the spirometer where it is measured During the act the thoracic wall changes from the position of forced inspiration to that of forced expiration, thus decreased in cross-sectional area to the extent of the area expansion

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[3] Hutchinson Some Deformities of the Chest in the Light of Ancestry and Growth THE JOURNAL A M A Sept 11, 1897 vol xxix, p 512

[4] Hall The Evaluation of Anthropometric Data, THE JOURNAL A M A, Dec 21, 1901 vol xxxvii

A study of Figure 3 will make it evident that lung capacity, C, is equal to the increased volume of the chest in inspiration, i e, to area expansion, E, times length $C = E \times L$

One can measure the distance between any two landmarks accessible on the surface of the thorax, but, having measured it, he is unable to affirm that it is equal to the average length The difficulty of locating landmarks which may be accepted as the limit of chest length led me to the use of an indirect method which it is hoped, will lead to satisfactory results

The final object is to find lung capacity without the use of the spirometer The laboratory, however, is supplied with a very accurate water spirometer Lung capacity is not, then, an unknown quantity It is chest length that is the unknown quantity in the simple equation $C = E \times L$ Then $L = \frac{C}{E}$

Let us call L the thoracic length index, and apply the formula to the values in the table The table gives two values for area expansions—E, found by the graphic method with the pantograph, E, found by the mathematic method with the calipers Inasmuch as both of these are subject to a certain range of error, and we have no means of knowing which is the more accurate, we will arrive at more reliable results by using both values in turn to determine the thoracic length index, and finally adopting the average

In the first column this average length index is 31 65 cm Note from the table that the values vary within a very narrow range, and that the average for the 119 men is 30 7 cm

At the time the data was collected (1902) the thought of taking thoracic length had not occurred to me The height sitting was taken, however, and is shown in the table The average for the 119 men is 90 52 cm In order to get an idea of the length of the thorax of these men, the height sitting and thoracic length was measured in nine men taken at random The thoracic length was measured from the middle of the clavicle downward along the ventral wall of the thorax to the middle of the tenth rib, where it joins its costal cartilage In the nine men thus measured the thoracic length was 35 7 per cent. of the height sitting, Taking this per cent of the height sitting for the thoracic length (calculated), it gives us the values recorded in the table

This calculated thoracic length serves the purpose of showing that there is a definite relation between the thoracic length index and the measured thoracic length

The average thoracic length index for 119 men is 30 7 cm. The average thoracic length (calculated) is 32 3 cm These averages differ by 1 6 cm If the thoracic length were taken from the lower surface of the clavicle to the upper edge of the tenth rib at the junction with its cartilage, the resulting thoracic length would approximate the thoracic length index within a few millimeters in every case

It must be evident from the above that if one can establish landmarks on the surface of the chest for giving him the thoracic length, he can determine lung capacity by multiplying this factor by the area expansion

The method for finding this is shown above As a preliminary step I would suggest the following method

1 Estimate area expansion as shown above and express it in square centimeters or square inches

2 Measure the thoracic length from the lower margin of the clavicle at its middle to the upper margin of the tenth rib at its junction with its cartilage, expressing the measurement in centimeters or in inches

3 Multiply the two values thus obtained, and the product will be the approximate lung capacity in cubic centimeters or cubic inches

Applying this method to the case of R B, whose contour is shown in Figure 1, we obtain 3,153 c c, while his lung capacity as measured by the spirometer was 3,100 c c This is a much closer approximation than one would expect usually to find If one can by this method get within 100 or even 200 cubic centimeters of the lung capacity as measured by the spirometer, the value of the method will be demonstrated, as the lung capacity in general varies between 2,900 c c and 5,500 c c

SUMMARY

1 In the calipers (pelvimeter) one possesses an instrument with which he can determine accurately the area expansion in any cross-section of the chest

2 To determine the area expansion, E 1, Measure the dorsoventral and the transverse diameters at expiration and at inspiration 2, calculate the mid-diameter at expiration $\left(\frac{D+T}{2}\right)$, 3, calculate the radial expansion during inflation of the lungs $\left(\alpha = \frac{c+c'}{4}\right)$, 4, multiply together the following three factors π (3 1416) times the radial expansion times the sum of the mid-diameter and the radial expansion $E = \pi \times \left(\frac{D+T}{2} + \alpha\right)$

3 The radial expansion for broad chests is not greater than for deep chests, the average for each being 1 55 cm in the 119 men here discussed

4 To determine the lung capacity, C 1, Estimate area expansion, E, 2, measure thoracic length, L (from the lower edge of the clavicle at its middle to the upper edge of the tenth rib at the junction with its cartilage), 3, multiply these two facts together for the approximate lung capacity $(C = E \times L)$

5 The landmarks for thoracic length may have to be modified as a result of subsequent tests

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A CASE OF CORTICAL HEMORRHAGES FOLLOWING SCARLET FEVER *

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The following case of hemiplegia developed in a boy during convalescence from scarlet fever The basis of the cerebral symptoms was a markedly hemorrhagic encephalitis focal in the parietal lobes The reaction is histologically characterized, aside from large areas of hemorrhage and a few superficial or meningeal areas of frank suppuration, by a tremendous proliferation of phagocytes The phagocytes for the most part contain blood corpuscles and dilate or supplant the pial and adventitial meshes In places, the phagocytes occupy the space of lost brain substance which has undergone acute fatty degeneration

CLINICAL HISTORY

G N, an American boy of 5 years, was admitted to the

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs. V C. Vaughan Frank B Wynn and Joseph McFarland.

South Department of the Boston City Hospital, Dec 13, 1902, with a few hours' history of vomiting and sore throat

The boy was well developed and nourished and only moderately prostrated The roof of the mouth was slightly reddened The tongue was moist, red and coated, and the papillæ at the tip were somewhat enlarged The throat was congested The tonsils were large and red On both tonsils and uvula was some exudation The heart was slightly irregular in action, and a rough blowing systolic murmur was heard at base and apex, transmitted a short distance into the axilla The face was flushed, with a pale zone about mouth The trunk showed a fresh punctate eruption, which was especially marked in axillæ and groins Other findings were negative or irrelevant

The diagnosis of scarlatina was made and the patient isolated. The disease proceeded as usual, and convalescence was setting in apparently without interruption when, on Jan 14, 1903, while the patient was up in clothes, a slight limp was noted in walking

Once at play the child had a violent contraction of the flexors of the right thigh, which abated after a half minute Early the next morning there were three more attacks, which were terrifying to the child, but painless These night attacks were attended by involuntary passages of urine

January 16 at about 10 30 a m was another attack associated with dull pain in the right knee The attack lasted about five minutes and consisted of regular contractions and relaxations of the flexors of the right leg, at intervals of about ten seconds A second attack occurred about 2 15 p m the same day, in which all the muscles of the right side were affected except those of the face As the symptoms persisted chloral was given, three minutes later the attack ceased Afterward it was found that the right arm was paralyzed and the pain and tactile senses were much impaired There was no loss of consciousness or any further disorder that day

On January 17, the fourth day of the cortical symptoms, the child was wakened at about 9 a m by a violent contraction on the right side of the body, still sparing the face The contractions were relieved with chloral At 4 50 p m the patient was again aroused from sleep by contractions of the right side, this time involving the face. Chloral was again given, with relief After subsidence of the attack the whole right side remained paralyzed. The child now took food with difficulty The sphincters were paralyzed

The notes of the next ten days follow

January 18 —Rectal feeding Sleeps most of time Dull and apathetic Pain sense in whole right side completely lost

January 19 —About 9 30 a m he had another attack involving all muscles of right side, including face Lasted about a minute, unconscious after attack

January 20 —Apparently unconscious all day Does not arouse when rectal feedings are given Sleeps most of the time

January 21 —Somewhat brighter Asked for water and played with toys about an hour Then went to sleep and slept rest of day and all night

January 22 —About 8 30 a m, while sleeping, mouth became closed firmly, and child grew cyanotic and almost pulseless Mouth pried open and color returned Nose found to be occluded with crusts Child emaciating Heart irregular Lungs and abdomen negative

January 23 —Unconscious most of time Emaciation marked Ptosis on right side Right corner of mouth droops

January 26 —Paralysis as before Pain sense on right side lost, diminished on left. Râles on both sides of the back

Gradually failed Râles more numerous Expelled all feedings Died January 28, 7 10 a m

The temperature, which had fallen to normal January 10, less than a month after admission, became 101 degrees F the morning of the 14th and remained elevated till the 20th From the 20th till death the temperature remained normal or was slightly raised

For the observations here recorded we are indebted to Drs T B Cooley and H H Smith, assistant physicians to the South Department of the Boston City Hospital, and to Dr J H McCollom, resident physician to the South Department, we are obliged for kind permission to report the case

SUMMARY OF CLINICAL FINDINGS

The case may be summarized as follows Scarlet fever of moderate severity in a boy of five years Convalescence interrupted about five weeks after onset of fever by cerebral symptoms, fatal two weeks later (seven weeks after admission) The contractions and sensory symptoms began in the right leg and advanced during four days to affect the whole right side, including the face The contractions were sharply defined (at one time alternating regularly with relaxations at intervals of about ten seconds) and limited in duration (a few seconds) Paralysis of the affected limbs ensued During the last week the child was in the main unconscious (masking symptoms on left side)

ANATOMIC FINDINGS

Fairly well developed, poorly nourished white boy, without rigor A very few livid spots on back Scaling on the under surface of toes, on scrotum and under finger nails Skin in general harsh to the touch and over calves feels almost like goose skin Pupils equal, not dilated No edema Extremities symmetrical Very little superficial fat of abdomen

Peritoneal Cavity —Surfaces smooth and dry Appendix crook shaped, retrocecal, points towards spleen, 11 cm long Mesenteric lymph nodes distinct.

Pleural Cavity —Left clear, right shows a few firm adhesions in front Surfaces normal

Pericardial Cavity —Normal

Heart —Weight, 100 gms Measurements Tricuspid valve, 5 5 cm , pulmonary valve, 4 5 cm , mitral valve, 5 5 cm., aortic valve, 4 cm , left ventricle, 1 cm , right ventricle, 2 mm Slight amount of subpericardial fat Myocardium firm, red without fat in teased preparation treated with acetic acid Endocardium, valves and coronaries normal Contents cruor clot and fluid blood

Lungs —Anthracosis slight Postmortem congestion on both sides, most marked on the right Peribronchial lymph nodes normal Bronchi normal

Spleen —Weight, 30 gms Capsule pale bluish, of usual tenseness Substance brownish red, not pulpy Malpighian bodies unusually distinct Trabeculæ evident

Gastrointestinal Tract —Normal Pancreas —Normal

Liver —Weight, 560 gms Nut brown, with a somewhat accentuated mottling Areas central in the lobules, somewhat darker than the peripheral areas Consistence normal or slightly decreased

Gall Bladder —Normal

Kidneys —Weight, 110 gms Strip well Stellate veins of cortex injected Cortical substance translucent reddish gray Pyramids darker than cortex, with well marked radial injection Fresh specimen shows no fat when treated with acetic acid. Glomeruli seen in sand granule form Ureters normal.

Adrenals —Unaltered Bladder and Genitalia —Normal

Aorta —Normal

Brain —Weight, 1,275 gms Dura of normal thickness and tenseness, not adherent to calvarium Pia over vertex and occiput lifted by clear fluid, which leaks away in amount estimated at from 30 to 40 c c The parietal lobes on both sides of the great fissure show a number of coin sized, reddish areas affecting an area which could be covered by the palm of the hand, circular or oval in shape, with well marked, finely irregular borders, with a very few fine points of injection, disconnected from the main area Shade of red was usually pink, but on the right side the areas were darker and the tissue about the veins in the sulci had assumed a slightly greenish tint On section these areas proved to be the external aspect of almost exclusively intracortical hemorrhages, varying in appearance from groups of puncta cruenta to soft, grumous, red brown lesions extending in some places into the white matter

The finely irregular border was observed throughout. The pial vessels seemed intact. There was no lesion of pia beyond the slight discoloration on the right side mentioned above Ventricles showed a normal amount of fluid Rest of encephalon showed no lesion

Spinal Cord —No lesion evident to the naked eye

The autopsy was performed at the South Department, Boston City Hospital, by one of us (E E S) during the pathologic service of Dr F B Mallory, to whom we are indebted for suggestions

SUMMARY OF ANATOMIC FINDINGS

Desquamation of skin after scarlatina Organs and tissues in the main showed little gross evidence of lesion Fresh and pigmented hemorrhagic lesions in the cortex of both parietal lobes, with edema of overlying pia mater

MICROSCOPIC FINDINGS

Cultures from both lungs, the liver and the spleen showed abundant growths of the *Staphylococcus pyogenes aureus* The lung cultures were pure The liver showed beside aureus, a bacillus of the colon group which was not farther worked out The spleen showed beside aureus, a few colonies of streptococcus Cultures from the meninges and from the hemorrhagic areas beneath the pia mater remained sterile.

The histologic examination of the organs of the trunk was in the main negative A section from right lung in the area of most marked postmortem congestion showed a cellular exudate of focal character, rich in polynuclear leucocytes and in bacteria both inside and outside the cells These bacteria were largely staphylococci but there were a few rather long chains of streptococcus like forms, and some short, slender bacilli The organs were in the main well preserved It is probable that the case can be interpreted as one of scarlet fever with a terminal aureus septicemia, complicated with or derived from a bronchopneumonia

Pieces from various portions of the brain (both at the foci of hemorrhage and at a distance) and from the cord, were fixed and stained for general histologic work, for bacteria, for neuroglia, and for fat

Numerous pieces were examined which showed no evidence of a lesion which could be regarded at first sight as infectious Consider, for example, the data of the following description of findings in the lesion of the left parietal lobe.

(a) The meshes of the pia mater cerebri and of the tunica adventitia of the majority of the short medullary arteries of the cortical system are filled with countless phagocytes In places beneath the pia adjacent to the larger foci of hemorrhage the phagocytes fill several oil immersion fields with here and there a stray bundle of connective tissue fibers About some of the arteries there has occurred loss of substance and replacement with fluid containing phagocytes and the stromata of blood corpuscles The phagocytes are large, well rounded cells of two to three or more times the cubical capacity of adventitial cells lying in situ The nuclei of the phagocytes are in the healthy cell, constantly oval and vesicular with a more or less prominent central nucleolus The perfectly oval nuclei are likely to be slightly eccentric in the cell When the cells had ingested blood corpuscles or (more rarely) other cells of the blood series, the intrinsic nuclei showed a slight contraction and apparent condensation of chromatin The nuclear membrane may fold in the major axis In the highly vacuolate examples or in cells stuffed with blood corpuscles, the nuclei are applied closely to one, arc of the cell contour, and are crescent shaped or cap shaped The elongate character of the nucleus is preserved to a late stage in the series of changes and is observed even where the cell body was breaking up There are some cells apparently of this series with round, deeply stained, slightly ragged nuclei and a slight rim of protoplasm, which may form the regressive stage of phagocytes which for some reason have not taken up inclusions. But in the majority of cases the regressive changes in the nuclei and the fragmentation of the cell bodies ensue on the stuffing and vacuolation of the cell bodies It is impossible to say whether chemical or mechanical changes play the higher part here, descriptively speaking, the mechanical factors would seem sufficient to bring about the destruction of these cells, which are nourished alone by a fluid containing many kinds of detritus Cells of this series are often caught in mitosis and in this condition are, as a rule, found just outside the muscularis of an artery

The nerve cells near the phagocyte masses are extensively modified, mainly by edema There are many collections of fatty detritus demonstrable by the Marchi method and by Scharlach R. in frozen sections Many of the phagocytic cells have taken up fatty detritus in rounded masses, forming a positive picture of the vacuoles seen in general stains Some of the larger (Betz) cells of the region have undergone another type of degeneration By the Nissl stain this type of degeneration is not demonstrable, but by neuroglia and fibrin stains a characteristic picture is obtained of cells variously shrunken and of ragged or punched out but sharp contour, in which the nucleus is opaque and the cell body contains numerous deep blue dots or rounded masses of a mainly peripheral distribution These dots are smaller and less angular than the normal tigroid bodies, but of somewhat the same distribution, sparing the shrunken remnant of axis cylinder They run out as far as the dendrites can be traced and seem to impart to the dendrites a pliable character, whence they readily stay in bent positions somewhat like glia fibrillæ Such cells are usually found remote from normal tissue and are, as a rule, surrounded by phagocytes of the usual type as described above The phagocytes occasionally occupied niches in the periphery of these cells, but we should be unwilling to regard the condition as a true or essential neuronophagia Occasionally, beside such a dotted cell, a true satellite cell is found, such as accompanies many normal nerve cells These cells also are to all appearance inactive The process must be regarded as peculiar, but of no great significance in point of frequency The more frequent regressive change in the nerve cells in such conditions is probably edema and fragmentation with fatty degeneration and more or less rapid solution

Near the phagocytic areas there is but slight evidence of change in the glia cells A few show enlargement of the cell body (the nuclei here is as a rule spheroidal), but there is no evidence of mitosis or of new fibril formation

Aside from the adventitial changes related with the production of the phagocytic cells, no important alteration is notable in the vessels

(b) In some regions, notably in the uppermost portion of the right parietal lobe opposite the arachnoidal villi, the lesions described under (a) are complicated with a frank suppuration in the pia and attached villous system In the lymphatics and free in the meshes of the fibrous envelopes of the arachnoidal villi are dense collections of polynuclear leucocytes enclosed in a fine, even mesh of fibrin The lymphatic clefts in the pia contain granular coagulum and in their walls are fairly numerous polynuclear leucocytes In the looser tissues beyond and especially internal to these clefts are numerous phagocytes of the usual type, some of them contain polynuclear leucocytes The tissues beneath the pia consist of deep masses of phagocytic cells, with here and there vessels lying almost free. A short distance inward there are few polynuclear leucocytes to be seen, and the phagocytes contain fat or blood globules exclusively

(c) By the Marchi method a rather selective degeneration is demonstrable in both upper motor systems, more marked in the system arising from the left hemisphere In the cord there is an axonal degeneration of the anterior horn cells (Nissl method) and a corresponding selective fatty change in many of the anterior roots There are also other diffuse isolated fiber degenerations less easy to reconcile with the systematic changes No myelin degenerations are demonstrable by the Weigert method

SUMMARY OF MICROSCOPIC FINDINGS

The findings microscopically were Early bronchopneumonia, due to the *Staphylococcus pyogenes aureus* Purulent infiltration of foci in the parietal pia mater and overlying arachnoidal villi Hemorrhages in the cortex and extensive development of cells phagocytic for polynuclear leucocytes, blood corpuscles and fatty detritus, in meshes of pia and in adventitia of short arteries of the cortical system Phagocytosis, associated with solution and fatty change of neighboring nerve tissues Peculiar dot-like necrosis in some nerve cells, which assume the glia stain Fatty changes in associated motor systems and early changes (axonal degeneration) in the lower motor systems

REMARKS

The conception of encephalitis has suffered from a dearth of adequate descriptive work The systematic treatment has, therefore, not kept pace with that of inflammation in other tissues For example, it was possible to say in 1886 that we can as yet present no unitary picture of processes which culminate in brain softening, if we except those which result from vascular changes [1] Yet in 1904, in the latest systematic treatise on encephalitis, we hear that recent distinctions of encephalitis into various forms are erroneous, and that all these phenomena can be produced by any appropriate inflammatory agents, among which are numbered the organisms of meningitis and of influenza, embolism, aseptic trauma, corrosive substances and heat [2] It is probable, however, that further study will make clear a difference in the effects of members of this series of agents

There are several characteristics of the lesion produced in the brain by bacteria or their toxins which serve to obscure the issue by drawing attention, on the one hand, to the vascular system, and, on the other hand, to the neuroglia Thus a recent triadic division[3] of encephalitis into, 1, purulent, 2, hemorrhagic, 3, hyperplastic, is based on the predominance in the histologic picture of suppuration, diapedesis and hemorrhage, or secondary glia-cell changes It is, however, probable that all these pictures may be produced by identical agents The omnipresence of the meningeal and adventitial phagocyte has contributed toward a false unification of the pictures of bacterial and those of mechanical origin

Herein we have sought to bring out the predominance of hemorrhage and phagocytosis with destruction of cortical tissue, the focal effect of meningeal suppuration in a case of subinfection with the aureus during convalescence from scarlet fever The case is one of cortical hemiplegia caught in process, and brings out the now frequently exemplified inflammatory origin of this disease

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[1] Bernhardt in Eulenburg s Realencyclopädie, 1886, pp 54 135

[2] Friedmann in Flatau Jacobsohn, und Minor, Pathol Anat d Nervensystems vol i, 1904, p 498

[3] Ziehen Encephalitis Haemorrhagica Acuta, in Encyclopädische Jahrbücher vol vi 1896

Venereal Diseases and the General Practitioner—Professor Neisser of Breslau has recently published an appeal to the general practitioner to perfect himself in the diagnosis and treatment of venereal diseases The idea that a specialist is required for them is absurd, he thinks Venereal diseases, more than all others, belong in the domain of general practice, and medical students should be trained to differentiate and treat them If every medical graduate were trained in the early recognition and means of aborting these affections, this would prove the most important forward step in the prophylaxis of venereal disease Neisser's article was published in the *Medicinische Woch* v No 15

THE STARVATION OPERATION FOR MALIGNANCY IN THE EXTERNAL CAROTID AREA

ITS FAILURES AND SUCCESSES *

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The present status of the starvation plan of treating malignant growths in certain regions adapted to it anatomically may, with entire truth, be said to be that of an untried plan, to all intents, and the chief reason for the present paper is to call attention to this fact, and to ask for it the justice of a thorough study, to corroborate or to overturn the views of its originator, as the results may warrant

That the method is still practically untried, so far as the great body of the profession is concerned, has two reasons, both quite obvious The first of these is the fact that, except in my Gross prize essay, I have never yet written on the subject Indeed, to-day's paper may accurately be said to be the first public presentation of this subject that I have made Repeated illnesses and the rigorous demands of professional work to the limit of my strength may, I hope, be considered a sufficient explanation The subject is to me so fascinating that I would gladly devote to it further years of my time I ask those who have tried this plan, or who may do so hereafter, to send me their data, whether good or bad in outcome These will be published, when in sufficient amount to be worth while, and meantime, by means of articles in various journals, let us hope attention will be drawn to the plan

It has been said that two reasons exist for the lack of a reasonably fair trial The second one is the obvious discouragement of the surgeons of my own surgical society, that of New York City, for of late none of them has, at least to my knowledge, been using it The explanation is quite plain Reference to the detailed records in the Gross prize essay will show that but ten of our members have tried the plan, and in each instance where the final result was obtained, the case was one of cancer and not sarcoma This is quite a remarkable fact (of course, merely the result of chance) and an unfortunate one, for in all these cases there was only a shrinkage of varying extent from little to much, for a brief period, not always stated but probably always inside a year, for these people were invariably cachectic and far advanced in cancer before being subjected to this, a last chance Now, since in none of these was the disease stayed very long in its advance, apparently these surgeons and others, hearing of their results, have assumed that in sarcoma the period of life gained would be equally small, but have not, however, tested this assumption practically Let us hope that the truth may soon be known, and at the hands of many operators the world over The method at least deserves this

By reference to my own detailed cases anyone will observe how much more favorable are the results with sarcomata than with carcinomata, and the minute anatomy of either of these tumors readily explains why this should be so

A priori Cancer spreads chiefly through its lymphatics, and control of the arteries does not necessarily affect the lymph channels very radically Sarcoma, on the other hand, spreads chiefly through and along its vascular system, and shutting off most of its blood therefore directly opposes the spread of the sarcomatous growth.

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee Drs DeForest Willard Charles A Powers and J F Moore

In several instances I have recorded and shown patients with starved and shrunken sarcomatous tumors, long past the three-year period, which Volkmann suggested as one after which with some degree of certainty we may claim a cure. Two cases are specially striking on the published list—both subperiosteal round-celled sarcomata of the lower jaw, a variety and a situation which Butlin, certainly an able authority, considers hopeless, however handled, and whether excised or not.

But for those who purpose repeating my own work, attention should be called to an essential step in the technic in lower-jaw cases. This is, in addition to the usual double excision of the entire external carotid (for safety done at different dates), to tie the inferior dental artery and its mylohyoid branch, just as this artery is about to enter the inferior dental canal. Also, to cut out an inch or more of the inferior dental nerve, thereby making sure that if the tumor should at some future time resume growth, this nerve being thus treated, of course on both sides of the neck, such growth would be and remain comparatively painless. It does not add more than a few minutes to the length of the operation after completing the external carotid excision, to deepen the wound toward its front, behind the ramus, until the inferior dental vessels are exposed, forcibly lifting the ramus by a sharp retractor, which also holds it immobile during the necessary dissection beneath it, is a step which aids the ease of work. In one of my reported cases I trephined the ramus to come down on the vessels and nerve, but in the other instance found it easy to find them as just detailed and without any trephining.

The reason it seems wise to control the inferior dental vessels in the lower-jaw cases is that this branch of the internal maxillary anastomoses quite freely, if indirectly, with the internal carotid, at higher points along its course.

Here should be mentioned the fact that orbital growths, or growths likely to be reached by any branches of the internal carotid, are plainly beyond hope by the starvation plan, and in fairness this point should be considered, otherwise this new plan would be attempted, as, indeed, I know of instances, in entirely hopeless fields. In a general way the lower in the external carotid area is the growth the greater are the prospects of its success. Of the twenty-nine ways in which the external carotid system can anastomose with outside systems, the internal carotid furnishes twenty-one, the subclavian seven, the innominate one. Our chief enemy, then, is the internal carotid.

The main channels within the external carotid system for such communication are three, viz., the terminal two, i. e., internal maxillary and superficial temporal, and the occipital. The former two, starting in the substance of the parotid gland, meet and mingle with the deep or internal carotid circulation in seventeen ways, the occipital with the subclavian in five ways. Since these three branches of the external carotids account then for 22 out of a total of 29 outside anastomoses, it is plain that they are our chief sources of danger and should receive our particular care, also that it would be almost impossible to starve a tumor of the parotid gland area. If Wyeth's suggestion of supplementing vascular excision by some plastic injection is to be tried these three are the branches which require it at our hands. The normal flesh however, requires *some* blood in order to live and with these three branches plugged shutting off twenty-two of the twenty-nine possible anastomoses, I have seen, in a few cases, slight sloughing follow—as an edge of the ear, or an inch or so of the skin of the face. The cancer, if soft, will regularly slough in such circumstances, which is, of course, desirable, and it should be trimmed away where dead to avoid a foul odor, septic absorption, etc.

The report of the few cases where injection has been extensively tried is not very satisfactory. However, this, like the vascular excision, is a wholly new field, and early mistakes were made as to material used, amounts injected, etc., all of which have been fully and honestly reported in the essay. It seems to me, however, that it is so advisable to cut off by this simple and quick way the seventeen undesirable anastomoses coming from the two terminal branches, that the weight of argument is greatly in favor of it. Generally, therefore, I inject the distal end of the external carotid where it enters the parotid gland, thus plugging and rendering harmless this nest of enemies. And since I have ceased to plug the occipital also, I have seen no sloughing of normal flesh. Depending on the location of the growth, I now plug either the occipital or the external carotid end, but not both. It has been determined in various ways that forty-five minims of the fluid is, in the adult, entirely safe, but much more, apparently, would not always be so. This, too, is the proper dose for the occipital, when that is chosen to be obstructed. Because it is so small a vessel, it simplifies injecting the occipital to tie the external carotid just beyond where it is given off, and then to inject this carotid closely proximal to the occipital, which thereon, of course, receives the heated fluid. The best material proves to be a mixture of hard white paraffin one part, white vaselin, nine parts. This hardens at 108 F., too high a thermal point to make it likely that any subsequent fever could melt it out, and is introduced at 120 F. With moderate dexterity and speed the injection can be completed, at this heat, before the paraffin solidifies, becoming opaque and white.

Whoever contemplates trying the injection, of course supplemental to excision of the external carotid, must remember never to take this step until he has first made absolutely certain that there is a regular bifurcation of the common into the external and internal carotids, for the anatomic arrangement which is the rule in the dog also constitutes the most frequent anomaly in man, namely, that the *internal* carotid, on its way to the brain, gives off branch after branch, which practically correspond in order and distribution with those normally arising from the *external* carotid, which last artery is, in such a case, either non-existent or is insignificant in size.

If the operator, taking a normal bifurcation of the common carotid for granted, proceeds to operate as usual and finally to excise what he mistakenly supposes to be the external carotid, no harm is done except that he has substituted for the trifling risk of external carotid excision (certainly well below 5 per cent.) the mortality of internal carotid ligation, which Wyeth figures at 40 per cent. But if the operator proceeds to inject the upper end of his artery, supposing he is about to plug thereby the internal maxillary and superficial temporal, he will cause instant death by plugging, instead the circle of Willis, and the vessels of the respiratory area of the brain.

This peril, like many in surgery, ceases to be a danger as soon as it is recognized. It will be plain that the ordinary test, whereby the operator makes sure that he has the external carotid under his finger, namely, observing whether controlling it stops the pulse over the zygoma, and where the facial crosses the body of the lower jaw, is deceptive, supposing the commonest anomaly, just mentioned, to exist For the pressure on the internal carotid, giving off later the superficial temporal, facial, and the rest, will, of course, stop their flow However, no mistake as to the carotids can be made, providing the surgeon, before proceeding further, takes a minute for dissection, enough to convince himself that the common carotid divides in the usual way, or does not so divide Hence it is well to begin this operation by exposure of the common carotid, and thence proceed upward, rather than to come down on the external carotid branches as the first step, and commence tying them off

It is well to throw a ligature as soon as possible about the external carotid close to its origin, thus having it under instant control, but it will be found best not to tie it early, for then its branches, bloodless and reduced to mere threads, are with more difficulty found

When finally the ligature is tightened and the vessel divided, its distal end should be made to take a dive, so to speak, beneath the twelfth nerve, the stylohyoid and the posterior belly of the digastric muscles, and reappearing above these structures its stump can with greater ease be followed to the parotid gland, and here injected if thought best

When first I began to study this field of work, I carefully preserved all veins and venous plexuses, at the cost often of much vexatious delay in dissection This was only one of various mistakes which later experience corrected, but which can not be discussed in a paper of this length My idea was that greater anemia would result if the veins and venules were left to carry off by force of respiratory chest-action any remaining blood in the tumor, and temporarily this is a fact As Dr Bristow pointed out, however, when a long time later possibly remaining anastomoses are endeavoring to form new arterial supplies, they will have more difficulty in so doing if there is an absence of veins to carry away such blood Hence the plan now thought best contemplates the simpler step of sacrificing all blood vessels as radically as possible, whether arterial or venous

One further point in technic, too important to be omitted, is to do the first of the two external carotid excisions always on the sound or less diseased side first This rule, the reverse of what one would naturally do, is based on painful experience If the surgeon operated first on the side primarily controlling the malignancy, often during the regular period of waiting for recuperation between operations (two to three weeks, commonly), there will be a noticeable shrinkage of the mass This starts a most unwise belief in the patient's mind that he is now on the highroad to recovery, and that there is no real need for operating on the other side of his neck, to which step he looks forward with dread He shares a common belief that surgeons cut just for the pure joy of cutting, and here is, he thinks, a peculiarly atrocious instance in point His cancer has evidently begun to go away, and why should not he take the hint and do likewise? He does, and either never returns, or does so too late from weakness due to a rapid recurrence of growth activity to render justifiable any further intervention whatever

If, however, the operation is first performed on the carotid of the sound side, no shrinkage, of course results to deceive him Realizing that the starvation plan with its duplicate operations is his only hope, he abides by his surgeon's advice, and at the proper time again submits to the knife And now, though very likely not permanent, the shrinkage will, at least as a rule in sarcoma, be of such considerable duration as to justify what has been done

If permitted on one side only, an external carotid excision is simply a waste of time, and this is equally true as to even a ligation of both without vascular excision

This refers, of course, to control of malignancy But on the contrary, ligation of both external carotids renders wonderfully safe many face and mouth operations, otherwise perilous from shock due to hemorrhage, and in my opinion this step will soon come into regular employment before such otherwise bloody work Curiously enough, Butlin (and most other authorities on malignancy) in no instance advises ligation before the usual extirpation of a tumor Apparently, he still entertains the old fear as to hemorrhage following ligation of the external carotid—due to the lack of an internal clot here, because of the numerous branches—a fear wholly groundless This ligation, in experienced hands, has practically no mortality Indeed, the entire extirpation of these arteries, when not complicated by masses of diseased and adherent lymph nodes, is surprisingly safe It is also the testimony, I believe, of all those who have tried it, that carotid excision is not especially difficult

CONCLUSIONS

In conclusion, I think there can be little dissent from the following propositions

1 The starvation plan, in sarcoma, has in some instances effected permanent cures—that is, shrinkages—not otherwise possible, but it is not asserted that such may always be expected Since, however, this plan is admittedly a *dernier ressort*, any percentage, however small, of such permanent checking of malignancy is a victory not otherwise possible

2 In both sarcoma and carcinoma, the knowledge on the part of the patient that by this method he has one more chance, though all other plans have failed, and the growth be beyond excision, restores his courage and cheerfulness and puts aside the imminence of despair As a surgeon has phrased it, we substitute in such a case, instead of the certainty of death, once more the uncertainty of life

3 Even in cancers, we can be reasonably sure of a few weeks longer life, sometimes up to a year, otherwise impossible when other plans have failed At first thought, if it should prove but a month or two of gain, we might question whether it be worth while But in my experience patients are grateful for even a short respite, and the decision is for them to make, not for us, as to whether it is worth while Given a man of wide business interests, for example, a few weeks longer in which to stave off the inevitable, may mean everything to him in the orderly winding up of his affairs

4 Again and again I have found the resultant shrinkage of tumors to give promptly the greatest relief to suffering, and permit the patient to cut down or stop the large doses of morphin formerly demanded This important point has also been observed by other operators

5 Given a growth of the region under discussion, excessively vascular perhaps, and too large to be cut out, in several recorded instances (one of them, the first of

ill, nine years ago) this operation has so shrunken the mass and so deprived it of blood as to permit, after a short time, an extirpation of the tumor, partial or complete, not otherwise possible

Within the past month a letter has been received from Dr J Chalmers DaCosta covering exactly this point I quote from it by permission A patient from Texas with carcinoma of the face had been seen by two distinguished Philadelphia surgeons The growth was then too extensive to be excised, and hence operation was declined by them Dr DaCosta performed the carotid excision on both sides last winter "The subsequent shrinkage was gradual, but certain," he writes, "masses of fibrous tissue were developed about it' A few weeks later he was able to perform an apparently complete removal of this cancer His concluding words express the idea under discussion, and which represents it may be, as practical a value to us as any in this starvation work, namely "This use of the operation, bringing, as in this instance it did, an at first inoperable growth into the range of operation, seems to me a very important and interesting phase of the matter"

DISCUSSION

Dr. A T Bristow, Brooklyn, N Y—I have performed this operation eleven times on six patients, the twelfth operation being done by my assistant, Dr Campbell In only one of these cases was the disease sarcoma, and in this case the patient died a short time after the second operation, therefore, I can not speak from experience of the curative value of the operation in this class of cases All the remaining cases were carcinomata, four occurring in the upper jaw, springing from the antrum One case was an epithelioma of the lip which had involved the lower jaw and was inoperable In all these cases I noticed that the pain of which the patients complained ceased after operation Shrinkage of the tumor also took place, and there was much diminution in the discharge from the cancerous mass One of my cases was alive at the end of a year Another I kept under observation for four months The disease at this time was stationary Judging from my own experience of two sudden deaths occurring one shortly after the operation and one in a case not here included, but done by Dr Campbell at St John's Hospital, I am obliged to come to the conclusion that there is a risk attached to this procedure which is out of proportion to the dissection We constantly, particularly in cases of tubercular adenitis, make dissections of the neck which are far wider and more extensive, yet there is no mortality in these cases All my cases suffered from respiratory failure when the stump of the vessel was made to take the dive beneath the hypoglossal nerve They all recovered, but the case which my colleague lost died at this point in the operation from complete failure of respiration. I am inclined to think that interferencee with the superior laryngeal by the traction may bring about pneumogastric inhibition The operation is sometimes easy, sometimes very difficult, and, of course, should only be resorted to in cases inoperable by ordinary methods

Dr. Dawbarn—I am sorry Dr DaCosta is not here, as he was, at my request, the first surgeon to practice this method. As Dr Bristow has said, and I agree, there is a sudden and complete cessation of excessive pain after external carotid excisions for malignancy, and in many cases the patients will be very thankful for a few weeks more of life, and without pain, in which to settle up his affairs I have referred in my paper to one personal case where such a decided shrinkage took place that an operation was made possible As to the question of mortality, although I have done the operation about 60 times, I find it very difficult to estimate mortality We must remember that this operation is always done as a last resort in cachectic subjects, often with masses of diseased and adherent glands over the carotids, and it is a choice between this attempt and a coffin Simple, uncomplicated ligation of both external carotids may be said to be devoid of mortality, certainly it is well below 1 per cent in skilled hands, and excision of both these arteries in non complicated cases, with a fair degree of vital power remaining, should not, with skillful work, result in more than 5 per cent of mortality

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THE INFLUENCE OF THE ADIPOSE TISSUE WITH REGARD TO THE PATHOLOGY OF THE KNEE JOINT *

A HOFFA, M D

BERLIN

Disturbances of the knee joint caused by the adipose tissue have already been described in some cases by Johannes Muller as lipoma arborescens, and by Konig as lipoma solitarium The former disease is determined by the exuberant growth of fat villi, sometimes to such an extent that they fill up the joint and cause an expansion of the capsule Schuchardt was the first to show by his microsopic researches that these conditions had nothing to do with tuberculosis of the knee joint

The lipoma arborescens is no real tumor like the lipoma solitarium of Konig, which varies from the size of a cherry to that of a walnut and is generally situated on the median side of the joint, with a pedicle reaching into the joint itself Konig thinks these tumors originate in the subsynovial fat tissue, and compares them in this respect to the lipoma subperitoneal They have been removed by Konig, Volkmann and others, and the supposed to result from some trauma of the synovial membrane effecting a slit through which the parasynovial and retrosynovial adipose tissue escape into the joint. These tumors are certainly not all real tumors, and I would rather class them as an inflammatory fibrous hyperplasia of the articular adipose tissue, which, according to my experience, is an important factor in causing disturbances of the knee joint I first came across this hyperplasia of the fat tissue some years ago on incising a knee joint for the sake of extirpating the detached meniscus, as I thought, which, however, was intact, and subsequently a great many similar cases were diagnosed by me beforehand showing this hyperplasia of the fat tissue beneath the ligamentum patellæ quite typical

The sound knee joint presents the following anatomic conditions Under the ligamentum patellæ the synovial membrane shows two plicæ alares and a plica synovialis patellaris The former consist of fat tissue with a coating from the synovialis, which stretches from the front margin of the tibia like a fat lobule into the joint, and even sideways beyond the ligamentum patellæ From the central summit of the plica alaris originates the plica synovialis, which is composed of fibrous fat tissue inserted at the fossa intercondyloidæ A sagittal section of the knee joint shows this fatty tissue situated like a wedge between the patella, femur and tibia. While the upper part adheres to the ligamentum patellæ, the lower is separated from it by the intervening bursa infrapatellaris profunda and joins the meniscus, also being connected to the periosteum of the front part of the tibia I have dissected a large number of normal knee joints and always found the above conditions from early childhood upward, the growth of the adipose tissue varying individually, sometimes cachectic individuals showing a larger growth than fat persons

A section of this fat tissue shows an extensive delicate network of fibrous strings interspersed with fat lobules, the surface being covered with a single layer of endothelial cells and small villi, increasing in number from the central parts toward the surface These villi consist of a delicate fibrous tissue covered with endothelial cells showing slight vascularity

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs. DeForest Willard, Charles A. Powers and J E Moore.

This normal adipose tissue is liable to grow and to produce a hyperplasia inflammatoria, even after slight trauma of the knee joint occurring chronically, and can then be felt as a pretty hard mass of fat on both sides of the ligamentum patellæ, similar to a lipoma These growths, I found differ widely from the normal adipose tissue as regards size, color and solidity

The growths that I have removed have often been larger than an egg, and beside the normal color, they show a reddish-yellow tinge, indicating hemorrhages I have also come across regular blood clots enclosing the above-mentioned villi when the operation was performed immediately after severe attacks of pain The adipose tissue is much more solid than you usually find it on account of the strong fibrous tissue A section shows very markedly a network of these solid strings enclosing the enlarged lumina of blood vessels My assistant, Dr I A Becker, has described the histologic details of these cases, and I shall only give you a short summary of our investigations

In the beginning of the process, beside centers of cellular infiltration, there are found fibrous tissue cells, leucocytes and perivascular cells, with endothelial cells winding along the surface of the increasing number of villi The blood vessels are filled and extravasation into the surrounding tissue has taken place

Later on you see the inflammatory process marked by granulation cells, which gradually take the place of the fat tissue, forming fibrous strings and showing the residues of hemorrhage, sometimes with pigment cells and even extensive necrosis, so that after a time the endothelial cells are joined immediately to the fibrous tissue without any intervening fat

This process is characteristic of an inflammatory hyperplasia of the adipose tissue interspersed with strong fibrous strings, and is generally caused by some trauma, either a fall on the knee or some other hurt, such as a sudden jerk, etc The hemorrhage must be considered as primary, followed by inflammation and exuberant growth of the villi, which are liable to be crushed between the tibia and femur, and this strangulation of the villi regularly makes the patient consult the doctor, showing symptoms quite similar to those of floating bodies of the joint

The pain is felt quite suddenly on the median side of the joint, the knee can either not be bent or the patient is not able to stretch it Hemorrhage into the joint itself may have taken place, but this is not generally the case After a time an atrophy of the quadriceps muscle is more or less developed, and there is a typical swelling of the knee joint on both sides of the patella, especially in its lower part, where the ligamentum patellæ insert, which is often raised by this growth, showing pseudofluctuation The patient should be examined standing and both knees compared There is no discharge into the joint, whose power of motion is generally unimpaired, only presenting a slight crepitation, very different from that of arthritis

DIAGNOSIS

The diagnosis of these cases is not difficult, and they can be separated from the cases of derangement interne, of separation of the meniscus or of floating bodies Separation of the meniscus causes the patient to localize the pain exactly within the joint cleft, floating bodies may be determined by Rontgen rays, while in our cases there is perhaps just a slight indication of a shadow within the otherwise clear space between patella, femur and tibia In all my twenty-one cases which I have observed within the last year and a half, except the first, where a separation of the meniscus was diagnosed, I was able to confirm the diagnosis made beforehand by a subsequent operation

These observations have also been made by other surgeons, but mostly accidentally while operating for floating bodies or other disturbances of the knee joint Thus Konig, in the festive paper for the celebration of v Esmarch's eightieth birthday, mentions having cured an officer by extirpating one of these villi

Similar cases have been published by Herhold and Lauenstein, the latter's case being complicated by a fracture of the patella also Borner, Martens and the American surgeons, Painter, Goldthwait and Ewing, have published observations similar to these

TREATMENT

Operations on these cases should be undertaken after the other methods, such as massage, compression, etc have been used without success, by an incision on the median side of the patella Of course, asepsis is a *conditio sine qua non,* and I have always followed Konig's "golden rule," to avoid bringing my fingers into contact with the joint and only to work with as few sterilized instruments as possible

The result is generally very satisfactory, as the disturbance caused by these growths is removed, together with their extirpation, and the operation, carried out under the necessary aseptic conditions, is without danger

For the first twenty-four hours after the operation I mostly use a small sterilized gauze strip as a drain to the joint After eight days the sutures are removed and the patients may walk about, movements and massage being soon applied The full use of the leg is secured in from six to eight weeks

I can certainly recommend this operation, especially in such cases where other appliances have been resorted to in vain, and I have been able to remove very severe symptoms and definitely heal my patients by this method

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TWINE IN LIEU OF THE ELASTIC LIGATURE FOR PERFORMING GASTROENTEROSTOMY *

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NEW YORK CITY

During the past winter two innovations have been practiced at the surgical laboratory of Columbia University They consisted in the carrying out of suggestions[1] made in a previous communication from the laboratory, to-wit First, that gastroenterostomy might be successfully practiced with the use of a triangular instead of a quadrangular stitch, and second, that the material for inserting the stitch might be twine instead of the elastic ligature

Weir objected to the technic as originally devised by

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee Drs DeForest Willard, Charles A Powers and J E Moore

[1] As has before been stated the original impetus for this investigation as in the case of so many others, was furnished by Dr Robert F Weir I take this opportunity to thank him for many helpful suggestions and for unfailing encouragement

McGraw, because he feared that the patency of the opening might be affected by bridges of tissue establishing themselves between the margins of the slit He said that if a method could be found by which the elastic could be made to "punch out," it would seem to be ideal Two students of the Columbia Medical School finally perfected the stitch They were Messrs Kussler and Thomas, and they should receive full credit for their important part of the work They demonstrated that if the elastic ligature is placed in the form of two juxtaposed squares,- it will with certainty punch out as large an opening as is embraced by the elastic They operated on a pig, and produced a very perfect specimen of enteroenterostomy, as shown in Figure 1 This specimen was removed after the pig had lived for six months

It having been shown in a great number of trials on dogs that this stitch would invariably produce a large and commodious opening—these specimens having been demonstrated before the American Society of Clinical Surgery, at its recent meeting in New York—this part of the work was considered completed

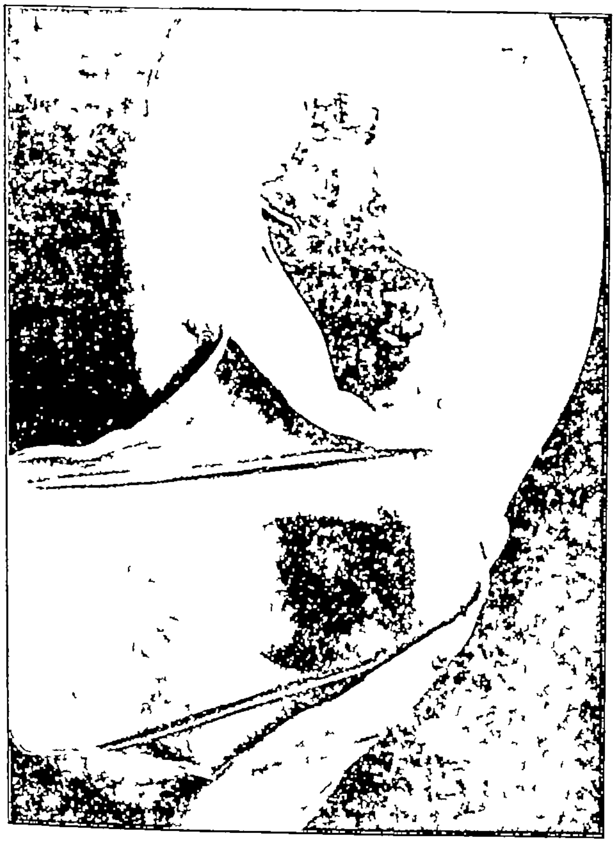

Fig 1—Enteroenterostomy in pig Elastic quadrangular stitch

Three months ago cord was substituted for the elastic ligature, and the triangular stitch was used in place of the square Thirteen dogs were operated on, the stomachs of all of which are on exhibition in the scientific exhibit The series is a small one, but it is consecutive

Photographs of three of these specimens, taken by Dr Edward Leaming, instructor in photography at Columbia University, are herewith presented

Figure 2 shows an enteroenterostomy Figures 3 and 4 represent gastroenterostomy Figures 2 3 and 4 depict specimens from dogs, Figure 1, as before stated, being from a pig The gut of this animal more nearly resembles that of man and affords, therefore, more satisfactory experimental results

The stitch has been inserted in a simple circle, as in McGraw's technic, string, however, being substituted for elastic In the single specimen obtained, a satisfactory,-although not a wide opening was made The advantage of the triangular stitch appears to be that the zone of necrosis can be carried as far from the main line of pressure as may be desired, in other words, the principle of the triangular stitch differs from that of the single stitch method, in that the operator using it has complete control over the lateral size of the opening, as well as over its longitudinal dimensions Thus the triangular stitch enables one to increase the size of the two dimensions, whereas the width of the McGraw is a constant factor not subject to change

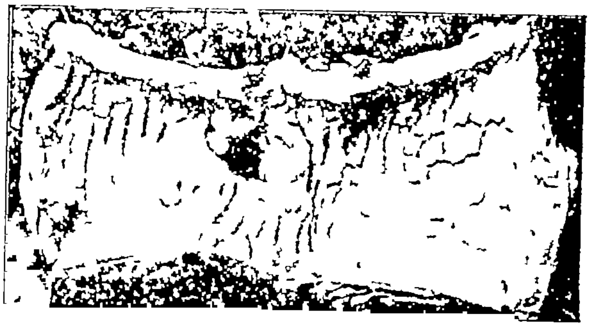

Fig 2—Enteroenterostomy in dog Twine triangular stitch.

There has been a doubt in the minds of a great many surgeons as to whether the McGraw elastic will cut through Enough operations on dogs have been performed at the surgical laboratory to confirm Dr McGraw's contention, if, indeed, this were necessary, that, properly inserted, the elastic will always cut through

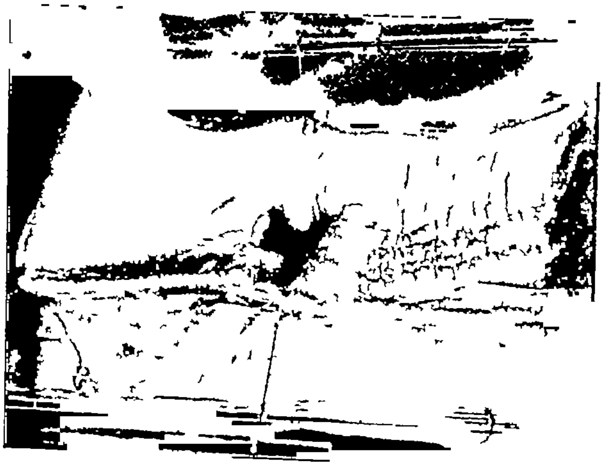

Fig 3—Gastroenterostomy in dog Twine triangular stitch. Shows mucosa of gut and serosa of stomach

But if it can be shown, as it appears to have been by these thirteen consecutive successes of the twine triangular ligature that twine will cut through as efficaciously as elastic, its advantages over this material can not be overestimated In the first place, a bit of twine is always at hand In the second place—and this is most important—it does not deteriorate, as does the elastic with age Even if the elastics be obtained directly from the manufacturer at Detroit and be pro-

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tected from free access to air, either by being placed under water or by being folded carefully in paper, they, like every other rubber article, deteriorate and lose both their elasticity and their strength It does not appear that the life of an elastic ligature exceeds six weeks or two months, and under unfavorable conditions, this period may even be reduced Furthermore the twine is much easier to introduce than the elastic, this fact being evinced by the varieties of complicated needles which have been made to facilitate the passing of the elastic ligature Any large needle will carry the twine

Fig 4 —Gastroenterostomy in dog Twine triangular stitch Shows mucosa of gut and serosa of stomach

It may reasonably be felt by some that enough work has not yet been done in an experimental line to demonstrate positively the efficacy of the twine ligature This may be true, but I beg to state that there are at the scientific exhibit the stomachs of two dogs operated on during the afternoon of June 2 in the presence of Dr Powers and Professor Weir Three and one-half days later these dogs were killed, and the openings were found to be complete The twine had cut through as rapidly as if it had been elastic In one the stitch had sloughed out and was detached In the other it was barely adherent to the margin of the fistula In point of time, then, and in certainty of action, if anything may be judged by a small but consecutive series, the twine is at least the equal of the elastic

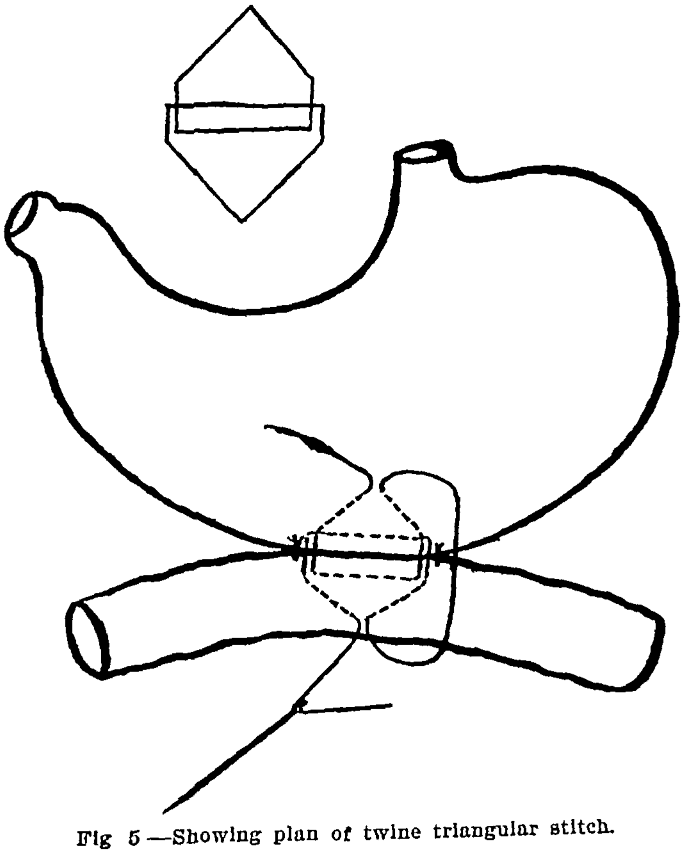

Fig 5 —Showing plan of twine triangular stitch.

The method of inserting the twine in triangular form will now be described in detail Figure 5 shows the outline of an intestine and a stomach This chart is one that Dr Weir has had made, and has kindly lent to me Two Lembert stitches are placed to mark two angles of the triangle The third stitch, or apex, is represented on the stomach above and on the gut below In the lower right-hand corner of the diagram, the stitch has been represented without the viscera It is to be noticed that it looks like two little houses, one right side up and the other upside down, placed on each other This fanciful relation is, of course, changed as soon as the apices are brought together The dotted lines in the diagram mark the area of twine which is within the lumen, and show how the Lembert stitches guide in inserting it There is no difficulty at all in putting this stitch in if one simply remembers to weave the twine from one viscus to the other, completing first one triangle in the gut and stomach, then *vice versa*

We have not followed Dr McGraw's technic in placing a posterior row of Lembert stitches to unite the stomach and the gut, because all our gastroenterostomies have been done on the anterior surface of the stomach, and the reinforcing stitches have been put in later Lembert stitches are certainly necessary in this technic It does not appear to matter whether they be interrupted or continuous, although we have usually employed the former It has been shown to be practical to make the triangle in the stomach somewhat larger than that in the gut

As previously intimated, no complicated needle is necessary to introduce the twine The one in use at the laboratory has been made from an ordinary steel bobbin, which was broken off at the required length and ground to a point

After the insertion of the twine, which always should be too strong to break with the hands (braided fish line serves the purpose well, although we have used the ordinary white commercial twine), a row of Lembert stitches is so placed as to encircle the region of the triangle The stitches first introduced serve again as guides for this procedure

The introduction of the twine can be accomplished in less than a minute and a half Like every other stitch it requires a little study and practice, but it is not a complex technic

It is a pleasure to state that without the untiring assistance of Mr Gordon, the student assistant at the laboratory, this work could not have been brought to its present stage, and I take this opportunity to thank him for many invaluable suggestions

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THE DEFECTS OF THE MURPHY BUTTON, WITH SUGGESTIONS OF IMPROVEMENTS IN THE OPERATION OF GASTROENTEROSTOMY *

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It is not proposed in this article at all to decry the merits of the well-known Murphy button, for it is conceded by everyone that by this admirable mechanical device, abdominal surgery has been largely advanced in the last decade Since its introduction by its distinguished inventor, however, an enormous experience as to its value as well as to its demerits has been acquired, of which it is well from time to time to take stock

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee Drs DeForest Willard, Charles A Powers and J E Moore

In the earlier anastomoses between intestine and intestine or intestine and stomach, or between the gall bladder and intestine or stomach, the usually employed incision demanded in its best digested form an opening which experience showed in a gastroenterostomy and in an enteroenterostomy should be at least two and one-half inches long to prevent its subsequent closure, and to complete the operation it was requisite that the edges of the applied gut and stomach, as in a gastroenterostomy, for instance, should first be sewn together and then the opening was to be rendered more secure by a second outer row of special sutures to bring and to keep together the apposing peritoneal surfaces This took considerable time, and the mechanical button much simplified the technic and materially diminished the duration of the operation, and particularly so, if one avoided as Murphy said should be done, using any sutures of safety to hold together the peritoneal surfaces peripheral to the button Many surgeons even now, however, do not trust entirely to the button itself for peritoneal union, but resort to the employment of these additional safety sutures, indeed, I may say from personal experience and from observation, that the majority of surgeons known to me resort more or less frequently to these safety sutures, and naturally with a corresponding sacrifice of rapidity of the operation These safety sutures are from time to time found to be of additional necessity by virtue of the tendency of the puckered-up intestine or stomach, when tied to the cylinder end of each half of the button, to protrude beyond the button edge when the halves of the button are crowded together This puckering-up and surplusage of tissue is much obviated, I have found, by using Carle's method, who, after the introduction of the button halves, sutures the extra long part of the intestinal or gastric incision with one or two Lembert sutures and leaves thus a smooth edge about the button shaft

All the earlier mechanical devices used in a gastroenterostomy, beginning with Senn's plates and Abbe's rings, and other contrivances continued along that same line, up to and including the Murphy button, had one merit of some little moment attached to them, and this was that until dissolved, if they were soluble, or dislodged, if they were not—they held the stomach and intestine in a more or less broad splint that protected the intestine from hanging so dependently from traction or from gravity action that kinkage at the suture point would likely ensue This kinkage, with the tendency of the spur on the other side of the intestine to act as a valve, as Keppler has shown, accounts for many cases of obstruction of the biliary and pancreatic secretion at the gastroenterostomy opening, which in turn produced the so-called vicious circle, with its upward regurgitation of these secretions into the stomach In this kinking, let me make it clear, that not only does the intestine take part in its production, but also the stomach, particularly if it is dilated, hence the various suggestions of suturing adjacent portions of the small intestine to the stomach is of little or no avail in obviating this difficulty Furthermore, the circularly punched-out opening in the anastomosed parts when a Murphy button of 27 mm in diameter has been usud in a gastroenterostomy, has, in my judgment, very materially aided in preventing the closure of the artificial opening thus made and in some seventy cases in which I have employed the button, in only one have I known this closure of a gastroenterostomy opening to have taken place Mayo and others have recorded a few instances, but compared with the multiple employment of the button this closure is but seldom encountered

There is another mishap of more frequent occurrence in using the button, and that is the occasional escape of the button into the stomach, where it may be recognized by an *x*-ray picture and yet be borne without distress by the patient, or it may beget symptoms demanding a gastrotomy for its relief To prevent this complication, I several years ago, as may be known to you, suggested the addition of ⅛-inch to ¼-inch flanges to be placed on two sides of the intestinal half of the button This has worked well, for in some thirty-three cases where it has been employed by me, in but one, and that quite recently, did the button slip into the stomach

All who have had some experience in gastric surgery must admit that comparatively often the button does not come out in spite of long waiting and patient and thorough investigation of the fecal discharges Carle estimated that about 78 per cent of the buttons were retained in the intestinal canal and were probably harmlessly lodged in the sulci of the large intestine Of late the *x*-ray has aided the surgeon in tracing the missing machine

Another disadvantage to which I will now refer is a somewhat unexpected one, and is due to the inevitable possibility of imperfection in the manufacture of the button It has been well emphasized by Murphy himself that the buttom should be well made I have seen the pawls, or the little projections that hold the telescoped buttons together, made of separate pieces and simply riveted or soldered to the main cylinder This is an error, and the best manufacturers make this part and the cylinder itself out of one piece of metal, but even this does not always protect the button from separating unduly Futhermore, the coiled spring contained in one of the halves of the button, and which is thought to be of service in keeping up the pressure as the tissues progress in their sloughing, may, rarely it is true, escape from its attachment and get loose, making an intestinal puncture possible I have had three instances in the last two years of such accidents, one when the catches became loosened, having been soldered, probably, in the other two the wire escaped its fastening In the latter case the buttons were made by manufacturers endorsed by Dr Murphy himself as proficient in their make

An additional defect is worth calling attention to, as it may explain some of these mishaps The corroding action of the gastrointestinal secretions on the metal of the button, is nearly always seen on all buttons, retained more than, say, three weeks The nickel-plating will be found to be gone, and if one uses—as at one time we did at the Roosevelt Hospital for economy's sake—the button several times after it has been cleaned, polished and renickeled by the maker, decided evidences of corrosion will be seen about the openings of the button This is fairly well exhibited in the accompanying Figure 1 the button in this instance having been used three times This corrosion may account in some cases for the slipping of the catches and the escape of the wires In my first case, when the button, made by a noted surgical instrument maker in New York, was used in a gastroenterostomy, some nine months later the patient underwent gastrotomy for persistent painful gastric symptoms and the button was found in the stomach separated into its two halves, no pawls or catches were to be found The second case was a gastroenterostomy with a button made by an endorsed manufacturer in Chicago, with my flange added to it The operation was done in a state neighboring to New York, and the patient wrote me later that on the twenty-ninth day the lower half of the large button came away On the thirtieth day a small spring was passed in a defecation On the sixty-seventh day the intact enteroenterostomy button passed, but up to 144 days, when last reported on by him, the other half of the large button had not appeared, and an x-ray examination failed to detect it He, however, did not have from this supposed retention any untoward symptoms He said his stools had been carefully watched

A third case has recently occurred where the button was passed the thirty-fifth day after a gastroenterostomy, in a complete form, but the wire spring had become loosened at one end, though still held by the grip of the button

A lesser accident, that only impairs the technic and does not affect the patient, is one that can be easily avoided Twice I found after suturing each half of the button in the intestine and in the stomach respectively that I could not force the male into the female cylinder, and that I had to rip out the imperfect half and put in a better one in one case, and in the second I had to take out both halves and put in other ones The imperfection in the buttons in these cases had been brought about by the pressure of a rather wide-holding forceps flattening out the round of the cylinders, so that they would not telescope Care in employing finely-pointed catch forceps has prevented any recurrence of the difficulty

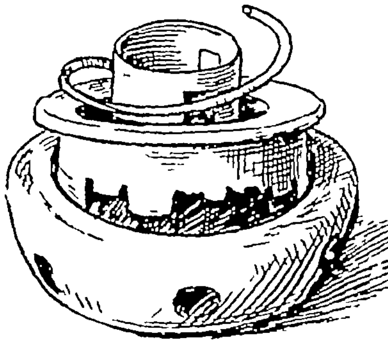

Fig 1 —Showing corrosion of button and loosening of the wire spring

With the objection that both surgeon and patient feel at leaving within the body a metallic device with the imperfections that are inseparable from any mechanical contrivance, it is not to be wondered at that many surgeons of distinction here and abroad have recently reverted to the previously cast-off simple method of incision and suture, or that others have tentatively tried to create new procedures of operation For my own part, I confess I am yet on the fence While the button has served me well in many cases, yet I feel uneasy in longer using it, and have in four cases lately tried to overcome still further its tendency to escape into the stomach by attaching in each of these instances the smaller entero-enterostomy button (which I always use to prevent the establishment of the vicious circle) to the flanged gastroenterostomy button by means of a stout but loose piece of silk, or preferably braided silk and linen fishing line, leaving the ends of the knot three or four inches long to hand down in the intestine By this procedure I hoped to secure, by the intestinal peristaltic action, a certain amount of tugging or traction by the lower button, which usually separates first, on the upper one I have resorted to this expedient in five instances, one of them was operated on four days ago[1], in one, death resulted in forty-eight hours from pneumonia, but in the other three everything went on happily, though I noticed that in one case, where the buttons were retained nearly forty days, that the silk had become quite friable Asbestos thread or fine rubber cord—not taut, however—might be employed Fishing line worked well in one instance See Figure 2.

The use of the oblong button has lately been applied to gastroenterostomy by Murphy and by Blake, but it does not appeal to me It gains a larger opening, with the greater risk of lodgment in the stomach and increased amount and variety of mechanical contrivance I look with more hope to the elastic ligature suggested by McGraw of Detroit I have not used this procedure, for, as given to us by him, the resulting opening is not longer than that made by the incision and not wide enough in my judgment to be sufficient guard against closure

I had determined to imitate the punching-out of the Murphy button by cutting out a round piece of the stomach and intestine and then completing the gastroenterostomy by the usual suture, when I made a suggestion to Dr Maury of the surgical research department of the College of Physicians and Surgeons of New York, to see if he could, on animals, contrive an elastic suture so as to bring about a decidedly large opening in all diameters This he has been able to effect, at first making a quadrilateral opening, and more lately a satisfactorily-sized triangular opening by a rapidly-introduced suture of twine applied by a technic even simpler than that presented by Dr McGraw[2] I believe we may anticipate a useful result to abdominal surgery from his investigations I shall certainly try the method in an early case

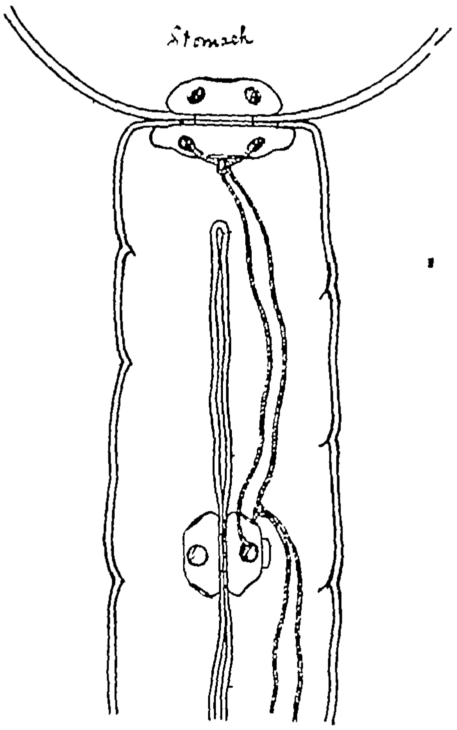

Fig 2 —Showing the flanged button and thread tractor attached to the enteroenterostomy button

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[1] On the sixteenth day both buttons were discharged with the silk attachment unimpaired

[2] As described and illustrated in the preceding paper

Identity of Meat Poisoning and Paratyphus—The clinical course of poisoning from meat and of paratyphoid varies as the former is more acute, the latter subacute, but otherwise Trautmann announces that they are merely varying forms of an etiologically single infectious disease. His communication issues from the Hamburg Institute of Hygiene and is published in the *Zeitschrift f Hyg und Infkr*, xlvi, No 1

EXCISION OF THE ULCER-BEARING AREA IN GASTRIC ULCER*

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PHILADELPHIA

Rash, indeed, would be the surgeon who advocated operation in all cases of gastric ulcer, but more rash would be he who practiced excision of the ulcer-bearing area in all cases operated on I wish it distinctly understood that it is only in certain well-selected cases that the proposed operation has, or may ever have, an accepted place in surgery We are all agreed that 25 or 30 per cent of the cases of ulcer of the stomach may be cured by medical means These will usually be the cases of acute round ulcer found in females under the age of 30 They are also frequently found in connection with chlorosis, and it has been found that, as a general rule, they heal under medicinal treatment It has also been learned that the chronic ulcers, usually found in males past the age of 40, are the ones which interfere seriously with the mechanism of the stomach and have to be treated very largely by mechanical, rather than chemical, means It has still further been found that gastroenterostomy, valuable as it is, and the operation preferred by a majority of operators, here and in other parts of the world, has its distinct limitations

Pyloroplasty, which was practically the first of these operations on the stomach, is infrequently practiced at the present time, unless we accept the operation of Finney, assuredly the best of its kind The objections to the Heineke-Mikulicz operation are, first, that it is dangerous to practice in open ulcers where the stomach walls are friable, second, the opening that is left (pylorus) is on a higher level than the rest of the organ, and the stomach muscle in its weakened condition is not able to lift up the gastric contents and propel them through the enlarged outlet The Finney operation undoubtedly possesses an important advantage over the Heineke-Mikulicz procedure, as it permits drainage in the natural position and will probably always overcome even narrow strictures The objection to it, however, is that it is not the best operation in open ulcers, inasmuch as the contents of the stomach must still pass over the ulcer or ulcers in order to reach the duodenum Gastroenterostomy though favored by a majority of operators, has been shown not to relieve all cases of hemorrhages, as Kocher and others have reported deaths after gastroenterostomy which apparently for a time had been entirely successful Neither does it prevent perforation as there have been many such cases reported after gastroenterostomy It does not nor do any of the methods in well-established use prevent cicatrices forming after the ulcers These result in stenoses, and possibly cause further trouble in the stomach

The operation of excising the ulcer-bearing area is especially indicated in cases of multiple ulcer It will be found not only that the acute, round or perforating ulcer is multiple in many cases but experience gathered in the last few years indicates that chronic ulcer is more often than otherwise multiple This has been insisted on by Mayo and others Moynihan states that it has been rare to find a chronic ulcer that was solitary If an ulcer is found at the anterior portion of the pylorus one is very apt to be found directly opposite on the posterior surface Owing to the fact that ulcers are so frequently multiple, the operation of simple excision of the ulcer, which I was disposed to think favorably of four years ago, and advocated, is sometimes inadequate and must be supplemented by a gastroenterostomy, otherwise it will fail Excision of one ulcer does little good if others are left behind Another reason for excision of the ulcer bearing area is the fact that malignant transformation frequently occurs in cicatrices left after gastroenterostomy, or any other operation which does not remove the lesions, but allows them to remain as a perpetual menace to their host

Some years ago Hauser estimated that 6 per cent of all ulcers of the stomach resulted in carcinomata at some future time, while Doyen thought that a very much larger percentage underwent malignant change I think we now have sufficiently accurate information to warrant us in saying that a large per cent of all gastric ulcers undergo carcinomatous change

Perhaps the very best information that we have on this subject is furnished from Rochester, Minn, where out of 157 cases of cancer of the stomach operated on by the Mayo brothers it was found that in 60 per cent of them there was a well-marked history of previous ulcer, although sometimes years elapsed between the benign and malignant condition When one remembers the fact that the topography or geography of ulcer and cancer is practically the same—that is to say, 80 per cent of all ulcers are located in or near the pylorus, and about the same per cent of carcinomata are found in the same region—one is led to the conclusion that ulcers more often degenerate into carcinomata than has hitherto been thought probable Another reason why excision of the ulcer-bearing area may be done to advantage at times is the fact that gastric and duodenal ulcerations so often coexist For this information we also owe more to Mayo than any one else He has found that in 12 per cent of his operative cases the ulcers were in the duodenum, and in 88 per cent in the stomach Moynihan states that he has practically never found a case of duodenal ulceration that was not accompanied by one in the pyloric portion of the stomach All agree that when duodenal ulcer exists, gastric ulcer is almost sure to be present

When we remember that duodenal ulcerations are far more likely to perforate than gastric, then I think it will be admitted that this is a strong plea for removing not only the pylorus, but the upper part of the duodenum, in such operations This can be very easily done, inasmuch as Mayo has shown that duodenal ulcers are in all instances limited to the first two and a half inches of the duodenum Further, all will admit that a pylorectomy, rightly done, leaves the stomach in a better condition for future usefulness than a simple gastroenterostomy, because, however well the gastroenterostomy may be done, whether it be by the excellent methods which have been demonstrated here to-day, or by any other method whatsoever, so long as the pyloric end of the stomach is patent a certain amount of the gastric contents will pass through the pylorus, cause irritation and lead to future trouble On this account Mayo has been compelled to reoperate 6 per cent of his 271 gastroenterostomies and of those reoperated and subjected to excision of the ulcer-bearing area all were completely relieved—a cogent reason why this operation should be done

TECHNIC

As 80 per cent of gastric ulcers are found very near the pylorus and nearly all that produce symptoms are so situated, it would seem that practically all the ulcer-bearing area could be removed by doing a simple pylorectomy One would not be apt to make a mistake in diagnosis and do this operation when not indicated, simply for the reason that ulcers in other regions are usually latent and do not give symptoms Moreover, when the stomach is exposed one will nearly always be able to decide where the ulcers are by observing the milk-like opacity of the peritoneum, by a puckering of the coats of the stomach, by dense adhesions, or all combined We should remember that ulcers situated about the lesser curvature are far more apt to perforate than those about the greater curvature (122 to 16) Instead of removing only the immediate pylorus, it is better, therefore, to make the incision obliquely, so as to remove at least one-half or more of the lesser curvature

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* Read at the Fifty-fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard Charles A. Powers and J L. Moore

The pyloric end of the stomach can be removed in either of the two accepted ways, according to the case and fancy of the operator The second method of Billroth is, I think, to be usually preferred After the stomach and duodenal ends have each been permanently closed by double rows of sutures, a posterior gastroenterostomy is made The control of hemorrhage and suturing are made easy by the use of suitable clamps They also absolutely prevent escape of either gastric or duodenal contents The straight clamps used by Moynihan in doing gastroenterostomy, or the curved ones of Kocher, are admirably adapted to the purpose They should be covered with rubber tubing to prevent too great injury to stomach and bowel Both the pylorectomy and gastroenterostomy should be completed in an hour

The probable mortality of this operation should not exceed 10 per cent William Mayo has performed it seven times without mortality Were the mortality twice or thrice as great, it would still seem a perfectly justifiable procedure, as the mortality of ulcer under strictly medical treatment is at least 25 per cent, as admitted by nearly all medical authors, while Debove and Rémond place it at 50 per cent (including secondary deaths from anemia, consumption, etc) The operator will not choose this method in advance if the case seems to be a simple one, which will presumably yield to gastroenterostomy, but if, after entering the abdomen and carefully examining the stomach, he encounters conditions making the latter operation appear doubtful in its results, if not actually futile, then the more radical and ideal procedure should be carried out The conditions warranting the major operations are, to recapitulate 1, Multiple ulcers, 2, both gastric and duodenal ulcers, 3, threatened perforation of either, 4, repeated and dangerous hemorrhages, 5, a distinct tumor in patients past middle life, where the diagnosis between benignity and malignity is at best problematical

Every one with experience knows how difficult, almost impossible, it is, in many instances, to make a differential diagnosis between ulcer and carcinoma In such cases we should assume malignancy, actually existing or threatened, and perform a pylorectomy It is here well to recall the brilliant results of Mayo (thirteen operations, with one death), Kocher, Robson, Murphy and Moynihan, in their resections of the pyloric end of the stomach for cancer If it can be done, as Murphy states it was in 189 cases, by seven operators, with a mortality of 15 per cent, then, surely, a less grave operation, because less tissue is sacrificed, in better subjects, should give more favorable results If there be the same relative difference between pylorectomy in malignant and non-malignant cases, and surely there will be, as there is in gastroenterostomy, then the mortality following pylorectomy in non-cancerous patients should not be more than one-third what it is for cancer, or 5 per cent The Mayos had even a greater difference, or nearly four to one, as following gastroenterostomy in malignant cases their mortality was 23 per cent, whereas in their benign series it was but 6

Billroth's and other statistics of pylorectomy for cancer compiled prior to ten years ago are of little value and can not be accepted now, any more than statistics of operations for cancer in other regions Billroth, for instance, admitted a death rate of 23 per cent following his operations for cancer of the breast To-day we feel that from 2 to 3 per cent is more than an average, and 5 per cent should represent the outside mortality for the most radical breast operations The difference in stomach operations is noticeable from year to year, let alone from decade to decade, and the prohibitive mortality of twenty years ago for all operations on this organ has been succeeded by a definite but small mortality, and in almost every case is less than the medical treatment of former times

That excision of the ulcer-bearing area can be done with less mortality than follows the strictly medical treatment of this protean affection (gastric ulcer), with its hemorrhages and anemia of to-day, perforation and subphrenic abscesses of to-morrow, to say nothing of probable stenosis and more than possible malignant disease in after years, is not, I think, much longer to be seriously questioned

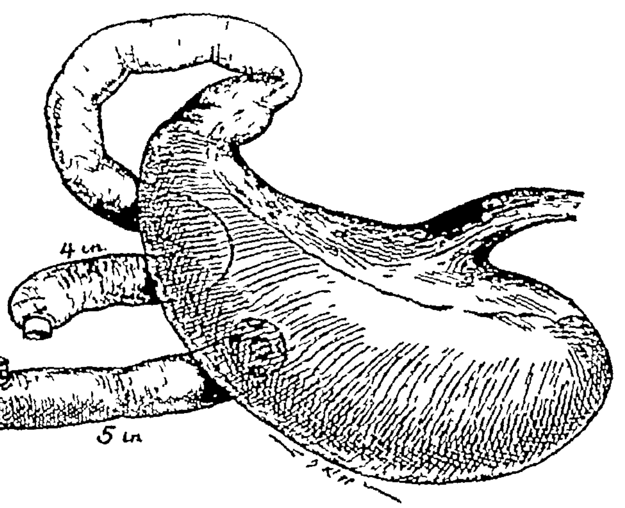
DISCUSSION

ON PAPERS BY DRS MAURY, WEIR AND RODMAN

Dr A J Ochsner, Chicago—My discussion will be limited to the McGraw ligature, but will not refer to the end results of gastroenterostomy or enteroenterostomy by means of the McGraw ligature, because my earliest case is not yet one and a half years old. When these cases have been done for a number of years, I think it will be wise to consider them and to speak about the ultimate value of the McGraw ligature It may be that after a number of years we shall find that our present experience as regards the immediate results will have been of no value whatever My experience covers 86 cases in which I have made use of the McGraw ligature, 68 of these cases were operated on at the Augustana Hospital, where I had the opportunity of following them closely, while the others were operated on in various places, and I have not been able to follow them carefully The only ones that will be utilized in these remarks are the 68 operated on at the hospital Of these, 19 were for carcinoma of the stomach Simple gastroenterostomy was done for the relief of obstruction of the pylorus caused by the presence of carcinoma, and of these three died. I should say, however, that the three would have died had I not used the McGraw ligature, but simply explored them and closed the abdominal cavity again I would not have operated by any other method The reason that I did use the McGraw ligature was because in my early experience I had used it in a number of cases which formerly I had closed without making an anastomosis Notwithstanding this fact, they lived for a considerable length of time, and some are still alive Gastroenterostomy furnished drainage which enabled the patients to build up again, and in some of them it stopped the rapid progress of the carcinoma There were 12 cases of benign stricture of the pylorus due to a healed ulcer, and all recovered. For acute ulcer of the stomach which had not entirely healed, which by its presence had either given rise to obstruction of the pylorus or to severe hemorrhage, and therefore indicated a gastroenterostomy, there were 33 cases, and 32 recovered. One died at the end of the third week, probably from a thrombus of the pulmonary, but no autopsy was permitted The patient died suddenly, apparently after having fully recovered One enteroenterostomy was made for a carcinomatous obstruction of the splenic flexure of the colon, which recovered Two enteroenterostomies were performed on one patient, who died This patient was very much depressed and never recovered from her depression She was so emaciated that, had it not been for the use of the ligature, I would not have done the operation at all I did a cholecystocolostomy for a carcinoma involving the common duct, a hopeless case, in which the gall bladder should simply have been opened, but instead of this I made an anastomosis by means of the McGraw ligature The operation was unsatisfactory, there was a thick walled colon and a thin walled gall bladder In the intestinal cases there were 67, with 5 deaths, and of these 3 were due to carcinoma and 1 to accident, a thrombus, and one to the very greatly depressed condition of the patient My mortality in gastroenterostomy has been smaller with the use of the McGraw ligature than with any other method The peculiar point about the gastroenterostomy with the McGraw ligature is in the fact that the patients show practically no shock It might be supposed that the reason for the absence of shock was in the fact that it is possible to do this operation with great rapidity In all abdominal work you have shock where you do a lot of manipulating While an assistant, I observed that certain surgeons constantly had frightful shock on the day following operation, and, on observing the conditions under which these various patients with similar conditions had been operated on, I found that those in whom the shock was very severe were the ones in whom there had been a great amount of manipulation My method is so simple that it is practically impossible to manipulate the abdominal organs unnecessarily, and this is the reason why the Murphy button has given such good results in comparison with the needle and thread If you have to sew for half an hour you are likely to do a lot of mischief outside of the operation itself

Dr. William J Mayo, Rochester, Minn —I am glad to note that Dr Weir believes with me that the button has done a great work He hesitates to give it up and comes out with a new device in which he uses a small button to lead the big button down, a sort of bait Supposing one button drops on the inside of the stomach and the little button is in the intestine, what would the connecting string do? In one of the first gastroenterostomies ever done the patient died from inanition because the opening was made low down in the ileum, throwing the greater part of the small intestine out of use Any one who goes into this question carefully must be convinced that the anterior operation, by being compelled to go down on the small intestine on an average about twenty inches, is not so good an operation as the posterior method, with a high jejunal opening It may be said that the difference of a few inches will not matter, but I believe that it is important We know that secondary jejunal ulcers, because of the acid gastric secretions being turned into the intestine through the gastroenterostomy opening, have occurred almost entirely with the anterior operation In the posterior operation the mucous membrane is better able to protect itself, and when it has occurred with the posterior operation it has been when a long loop has been formed As to the Murphy button, I must say that nearly all I know about gastrointestinal surgery has been taught me by this button, and I have given it up with regret I still use it in certain cases of gastrectomy where sufficient suturing has already been done. As to Dr Ochsner's method of doing gastrectomy and using a McGraw ligature to make the gostroenterostomy, I should have to think about it a few times before I could quite satisfy myself as to the safety of completely cutting off the little pouch of the stomach that was left and the intestine, even for the time needed for the ligature to cut through It is, however, a quick method, and that is what we need in cases of gastrectomy for cancer, but the Murphy button is just as speedy and gives an immediate opening I would say that the McGraw ligature has no particular place in surgery of the stomach, except in a few cases of carcinoma, in which the anterior operation is preferred because one does not like to turn a stomach with a considerable tumor out of the abdomen, and in gastric cancer there is a great reduction of gastric juice, and therefore, less danger of secondary jejunal ulcer Ochsner's results, however, have been unexcelled One can do gastroenterostomy very quickly with the simple suture after the posterior method There is no reason why mere suturing should take more than from twelve to seventeen minutes, and our results have been more than satisfactory, and we prefer and practice it excepting in the exceptional case in which the saving of five minutes gained by the button or McGraw elastic ligature may be of great importance As to Dr Rodman's operation, I believe it is an ideal one, but we can not carry it out in all cases We must say to ourselves that it is a good deal of an operation for a simple ulcer Of course, there is danger of malignant degeneration, and if the pylorus is not completely closed there is a possibility of secondary trouble It may be said that if the gastroenterostomy is placed at the bottom of the stomach, primary vicious circle does not occur In some cases secondary difficulty has arisen, which has sometimes been due to food working through the pylorus In looking for the particular group in which these secondary troubles took place, I found it was in those cases where the pylorus was more or less open Food will pass from the pylorus into the proximal loop and then will have to pass with the bile over the top of the anastomosis, causing dragging and contraction If simple gastroenterostomy is done in a case with an open pylorus enteroanastomosis should be done to prevent the latter sequela We would think that a low point gastroenterostomy would drain the stomach anyway, but intra abdominal tension prevents gravity action, and muscular contraction carries the food out of the pylorus I believe Dr Rodman's operation is an ideal one and is indicated in a certain class of cases I have done it seven times and the patients have recovered and stayed well

Dr. John B Murphy, Chicago—Dr Weir coddled the button a little more than I would It has more mechanical difficulties in its construction than he has stated and it is more frequently improperly made It is a little difficult to get members of the medical profession, not to speak of manufacturers of surgical instruments, to appreciate the points in a perfect instrument I have found that all kinds of metals have been used in the manufacture of the button, and have even known of the springs have been made of steel You all know how long a steel spring would withstand the gastric secretions—just a few hours—before dissolved by the acid This does not change the fact that the button is easily constructed, the brass, German silver and aluminum will answer all purposes and a manufacturer is a criminal who makes them of other materials He was very modest in his statment as to the number of times the button falls into the stomach, but how rarely it has caused trouble I have used Dr Weir's modification and have also had the experience of its dropping into the stomach It subsequently was passed The effect of every method of intestinal anastomosis must depend on certain elements 1 Exact apposition at time of operation 2 Continued apposition until organic union takes place. 3 All accomplished with the least manipulation 4 Operation in the shortest possible time, as time means exposure and manipulation. 5 Union in healthy tissues These are all easiest of attainment up to date by using the button It was brought out by Dr Ochsner that the performance of certain acts while the patient is on the table often causes death The most important of these is excessive manipulation, and the operator who uses his hands and sponges too freely in laparotomies is a most dangerous one I recently did a gastroenterostomy by suture, but it was not the easiest nor the safest method One does not need to have a button to do an anastomosis, as it can be done quickly with suture in trained hands The position of the anastomosis as brought out so forcibly by Dr Mayo is very important, i e, sufficient of the bowel on the proximate side of the obstruction must be removed I believe many cases of vicious circle in gastroenterostomy have been due to the use of too long a loop (12 to 18 in of jejunum) for either anterior or posterior fixation In the posterior position the important point is the change of position of the stomach after relief of the obstruction i e, the stomach again resumes the vertical position so the union should be three or four inches from the pylorus and the button should be inserted in the jejunum from three to five inches from the ligamentum Treitze, never from twelve to eighteen inches below the origin of the jejunum As to Dr Rodman's method, it is admirable In all cases of simple ulceration of the stomach without adhesion to the liver or gall bladder it seems to me it is the ideal operation, because it once and for all re establishes practicably the union of the stomach with the intestine in almost its normal relation and avoids a secondary opening, but the question of mortality must be settled by the clinical test As to the cause of contraction of the opening, it is due to excessive cicatricial deposit rather than to a re establishment of pyloric patency This is always true so far as intestinal contractions are concerned As to the contraction in gastroenterostomy, it was supposed to be due to the cessation of the necessity for an additional opening I recently had a case discrediting this theory Two years after a button gastroenterostomy the opening admitted two fingers freely and the pylorus was patent It seems to me there is still to be accomplished one modification, and that is the modification of closure of the pylorus or the first portion of the duodenum permanently in every case of gastroenterostomy without increasing the severity of the operation This has not been done by a method which does not involve additional hazard All methods so far increase the risk, and the ideal operation has not yet arrived, but I am looking for some one to bring it out The Monprofit method of jejunal posterior gastroenterostomy with the button seems the most simple and effective It consists of division of the jejunum four or five inches from its origin and inserting half of the button in the proximal end The other half is put through the open end of the distal portion and carried down for five inches, where a small incision in the lateral wall of the jejunum allows the cylinder to protrude It is then coupled to the other half of the button in the proximal end of the jejunum, and the distal end is buttoned to the posterior wall of the stomach This avoids vicious circle and is quickly performed



Dr Robert H M Dawbarn, New York City—Dr Weir's first objection to the Murphy button was his allusion to the special forceps which Dr Murphy uses to hold it and Dr Weir states that it results in flattening of the button For the past ten years I have used two corks instead of forceps, and the method is so simple I hesitate to mention it The corks act as handles If the first half is not drawn so tightly as you think so that the button drops back into the intestine, the cork prevents it going any farther

Dr L L McArthur Chicago—I have been doing some work along the same line as Dr Maury It had seemed feasible to make an anastomosis by the use of the crushing forceps much as Doyen did his closure of the intestine where resection and side to side anastomosis was to be made I therefore crushed given areas and made a simple circular suture opposing these two crushed surfaces I then thought to cut off the nutrition of the crushed area by an additional insertion of the suture, which should, by tightly drawing and constricting the crushed surface, shut off all possibility of circulation In both of these efforts to get the anastomosis I failed I have shown my failures to prevent others from wasting any more time in this way Under certain circumstances traumatic in character, tissues are met with in which the mere apposition by suture of the neighboring intestine will be sufficient to repair the damage done My specimens show that although no lumen can be made by opposing such crushed surfaces, the suture material employed to cut off nutrition penetrates and finally escapes into the intestine

Dr A Palmer Dudley, New York City—I recently operated on a case of cancer of the uterus, in which I attempted to do a hysterectomy, and the small intestine was so friable that while breaking up the adhesions it went into two parts I inserted the button and waited nineteen days for it About this time the nurse became careless and I was getting doubtful, when the patient developed a fecal fistula Still missing the button, I probed a fistula and got a marked click On further investigation I found the button and took it out through the same opening in which I had put it I published a paper on this subject in the *Journal of Obsterics*, but apparently it has only been seen by a very few I think I hold the record for putting in and taking out a Murphy button through the same incision

Dr Floyd W McRae, Atlanta, Ga—At the time Dr McGraw read his original paper before this Section, some years ago, Dr J McFadden Gaston was presiding, and Dr McGraw gave Dr Gaston the credit for being the originator of this ligature We are, therefore, doing Dr Gaston an injustice by calling this ligature the McGraw As to the gastroenterostomy, I wish to say that the most beautiful work I have seen is the operation which Dr Mayo does with his modification as applied to this operation I have seen him do it in thirty five minutes

Dr Samuel Lloyd, New York City—I performed a number of operations some years ago with the McGraw ligature and found that it acted very well and cut through rapidly, which is its chief advantage I think rubber better than twine because it is more readily sterilized Cutting off the pylorus is a subject which is worthy of more attention I have done it several times without any difficulty In a certain number of cases food may be given in twenty four hours, and I think that in Dr McGraw's original paper the time was referred to Rubber has the advantage over twine in that it begins its action quicker and we can begin feeding more promptly One great advantage in the McGraw operation is the use of the McClain needle It makes a shell for the rubber and tearing and pulling are entirely obviated You can determine the size of the opening with the McGraw ligature I remember doing the McGraw operation in a benign case, one of kinking of the duodenum A gastroenterostomy was done and the abdomen was found full of adhesion Two years after operation I was obliged to open the abdomen again for intestinal obstruction which seemed to be high up I suspected that the McGraw operation had been a failure and that I should have to make a new opening in the stomach, but on examination found that the original anastomosis admitted two fingers of my hand very readily

Dr Maury—Last fall we endeavored at the laboratory to follow up some suggestions made by Dr Mayo relative to the closure of the fistula in the event and as a result of the pylorus being open We closed the pylorus in the case of six dogs and inserted the usual McGraw elastic ligature Within thirty six hours all these dogs died Their symptoms resembled those of tetany The case reported by Dr Ochsner has an important bearing on the relation of tetany to the gastric mucosa As to Dr Lloyd's remarks, I am not aware of his having had any information whatsoever as to the rate at which twine if used instead of elastic, will cut through If as has been shown to be the fact at the Columbia laboratory it cuts a complete opening before three and a half days, it must evidently begin to cut some time prior to that As to sterilization, I believe it to be as easily accomplished with twine as with elastic by simple boiling Twine is easier to obtain and has the distinct advantage of not deteriorating with age

Dr. Weir—The difficulties I have experienced occurred in buttons made by instrument makers who were indorsed by Dr Murphy, hence the more likely to happen with less expert manufacturers Dr Rodman s suggestion is a scientific one and worthy of consideration There is one point that Dr Mayo brought out by inference and that is that the procedure is one only to be used where the gastroenterostomy or other procedure has failed This should be strongly emphasized

Dr Rodman—One can complete a pylorectomy in any way that he pleases, either by the first or the second method of Billroth Personally I should think it better to close it entirely The principal claim for this operation is the fact that there is a large and unknown per cent of cases of gastric ulcer which result in malignant change and that this is an increasing per cent all will admit It should only be resorted to in cases where it would seem that probably a gastroenterostomy would not prove successful as for instance where there were multiple ulcers In those cases where the ulcer is large and where the tumor is accompanied by glandular involvement, as in a certain per cent of benign ulcers so that no one could possibly say that he was dealing with a benign condition, then I say it is certainly a rational procedure for in such a condition we have to recognize and admit that there is a fair probability at least of malignant disease in men over 50 Every one realizes the fact that chronic ulcer of the stomach so often forms adhesions and takes in the lymphatic glands that it is not possible at the time of the operation to say that it is benign Kehr and others have removed tumors that they supposed to be malignant which proved to be benign I can not believe that the mortality can possibly be 30 or 40 per cent It should not be followed by a mortality of more than 15 per cent. Even in malignant disease we realize that pylorectomy has reduced the mortality to less than 30 per cent It must always be an operation followed by a somewhat heavier mortality than gastroenterostomy Mayo did not believe it would be followed by a mortality as great as that Gastroenterostomy has a mortality of 5 or 6 per cent There is a difference, but it is not very great and in favorable cases it seems to me that it may have an accepted place in surgery

BORIC-ACID POISONING

REPORT OF A FATAL CASE, WITH AUTOPSY

CHARLES L BEST M S
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From the Pathological Laboratory of the University of Chicago

The opinion appears to exist that boric acid, even in large amounts, is entirely innocuous to the human body when applied externally to wounds, suppurating cavities, etc That this is erroneous and that the surgeon must be on his guard against its too free usage as it is not impossible for a fatal issue to ensue, is shown by the literature, in which five cases of severe intoxication and four deaths are reported in addition to the case at hand These cases all resulted from the prolonged irrigation with saturated solutions of boric acid or the packing of large cavities with the dry powder

Welch[1] reports his experience in the treatment of leucorrhea, in which he packed the upper third of the vagina with boric acid allowing it to remain until liquefied, usually two to three days This was repeated every seventh day In three cases intoxication resulted, and are reported by him as follows

Case 1—Two hours after the first treatment the patient was found with the skin cool, pulse feeble, respiration weak, eyes sunken and dull and the mind unclouded but despondent

Case 2—Two days after the seventh treatment there was a marked depression of the nervous system and a pronounced acid discharge from the vagina The skin of the hands, face and feet was swollen, became charred and finally exfoliated All motion was very painful

Case 3—Two days after the seventh treatment the patient was found in a state of collapse, low spirited, the pulse feeble, the eyes sunken, the face dusky, and general weakness There was great pain in the vagina, the mucosa of which was corroded, and much discharge from the part Temperature, 97 6, pulse, 60 The symptoms did not subside for a week, in the meantime the patient being at times cold, hysterical and prone to melancholy The skin exfoliated in branny scales All three cases recovered

Spencer,[2] after an operation for syphilitic necrosis of the ankle joint packed the cavity with one-half ounce of boric acid This was repeated on the seventh day, and on the fourteenth nausea and vomiting set in, not yielding to treatment Other symptoms were restlessness, insomnia, hiccough, weakness, emaciation, rapid pulse, some coryza, inflammation of fauces and pharynx, bronchitis, an acid discharge from the anterior nares and a well-marked papular erythema over the face, neck, arms and chest The symptoms came on gradually, increasing for three days, when the dressings were changed, and in ten days they had disappeared

In addition, he speaks of two cases, one in washing out a lumbar abscess, and the other the pleural cavity, with a 5 per cent solution of boric acid, followed by death in both cases, the symptoms being nausea, vomiting, hiccough, slight temperature, bronchial catarrh, a weak, rapid pulse and well-marked papular erythema The report of these I was unable to find

Hun,[3] after irrigating the pleural cavity with 16 ounces of a saturated solution of boric acid, found his patient in the evening covered with a papular erythema, and with a rapid, soft pulse A second irrigation on the following day aggravated these symptoms, and nausea and vomiting set in The treatment was discontinued and the patient recovered

Molodenow[4] used a 5 per cent solution very freely for washing out the pleural cavity in one patient and a lumbar abscess in another This treatment was continued for one hour Uncontrollable vomiting set in in both cases, followed by an erythema of the face and neck, and death from cardiac paralysis Autopsy was not secured

Williams[5] irrigated freely a case of empyema, the treatment extending over a period of two months, and finally placed 5 ounces of the dry powder in the cavity Delirium set in, shortly followed by uncontrollable vomiting, an erythema over the body, cardiac paralysis and death Autopsy was not secured

Rose[6] fully reports a case, which may be summarized as follows

History—Boric acid was freely used in the treatment of a large open sore on the right thigh On the fifth day a profuse diarrhea set in, but there was no change in the general condition The mind was clear, temperature normal, with pulsation slightly increased Later vomiting set in and the granulations assumed a sluggish appearance The boric acid was discontinued The diarrhea and vomiting, which consisted chiefly of mucus and water became uncontrollable On the ninth day the intellect was still clear, but the eyes staring, the body was bathed with a cold, clammy perspiration, and there was great weakness The hiccoughing and the vomiting were but partially relieved by morphia The urine for the last few days was intensely acid The temperature was 97 4, pulse, 105 Death occurred on the following day, the temperature being 96, the pulse 140 Just before death the tongue was red and moist, the vomiting almost continuous, and the urine almost completely suppressed carefully controlled (The difficulty of fulfilling the second condition can be readily seen The others were met satisfactorily)

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[1] Medical Record 1888 vol xxxiv p 531

[2] Northwestern Lancet 1888 vol i p 22

[3] Medical News Philadelphia 1882 vol xl p 704

[4] Tillman s Operative Surgery

[5] Unreported case of W Williams Chicago

[6] Medical News Philadelphia 1883 vol xliii p 199

The experiments carried out thus far show that the solution, while not so perfect a protection to the patient as intact gloves, is infinitely superior to the bare hands, and is equal to or superior to the glove, considering the chances of puncture

The rubber coating is slightly permeated by the perspiration, but perspiration is limited by the coating just as it is by the rubber adhesive plaster

However, Harrington of Boston has shown that the secretion from the sweat glands is not septic, while epithelium and the secretion from the hair follicles are The hair is glazed over and matted to the skin by the rubber solution, and its epithelium does not escape after applying the solution as does the perspiration

The experiments were carried out by my assistant, Dr Arthur D Dunn (The figures show the colonies obtained in the agar plates from the washings)

SERIES 1

No	Rubber Solution	Bare Hand	Gloves	Control	Remarks
1	224	*		0	Exploratory laparotomy time of operation, 45 minutes
2	56	*		50	Varicose veins, time 1¼ hrs
3	17		13	0	Hernia time 30 min Equal amount of work by each man
4	11	*	16	1	Varicose veins time 1 hr Man with solution did rather less work than other two
5	187	*		0	Rubber solution defective
6	253		17	0	Rubber solution defective Hernia solution used by interne who was very careless
7	24		160	2	Laparotomy (Dr Schroeder)
8	36	123	24		Man with gloves did comparatively little work
9	2		0	0	Exploratory incision, thigh Man with solution did most work
10	30	*		0	Varicose veins
11	18		300	0	Laparotomy
12	76		54	0	Hernia.
13	5		2	0	Laparotomy

*Countless

SERIES 2

No	Disinfected hand	Nails	Rubber to back of hands	Rubber to nails
1	17	2	5	3
2	25	20	0	0
3	5	2	1	0

SERIES 3

No	Non disinfected hand	+Rubber	Non disinfected nails	+Rubber
1	*	0	*	2
2	*	2	*	5
	*	0	*	0
4	*	5	*	12

* Countless

In this series the rubber solution was poured on and allowed to dry on the hands without friction The method of using friction while applying the solution at operations is open to the criticism that microbes on or near the surface are worked up through the solution

METHOD OF PREPARATION

The method of preparing the rubber solution, as kindly furnished by E von Hermann, chemist, Chicago, is as follows

1 Care must be taken to cut the gutta percha chips in small pieces

2 Wash in formalin, full strength, and dry

3 Macerate the chips in benzine or acetone for three days, then filter through cotton which has been in formalin vapor for 48 hours Repeat the filtering twice and then the solutions are ready for use The benzine is sterilized by boiling it in a water bath in a strong, securely corked bottle Repeated culture tests of the solution prepared in this manner all proved sterile, 1 per cent carbolic acid may be added without producing irritation of the skin, but is unnecessary Formalin will not mix with the solution and therefore can not be used The solution will not stand boiling as it destroys the adhesiveness The chloroform and carbon solutions are not advisable as they are too severe on the operator's hands, and are expensive

At my suggestion the chemist macerated gutta-percha chips in benzine, acetone, chloroform and carbon tetrachlorid, and found the first two the best and cheapest the best, as they form a thoroughly tough cover for the hands and have the most lasting qualities They are not detrimental to the hands even after several weeks' usage Not only that, but the skin is as soft and smooth after a full day's operating as it was on beginning They are the cheapest, as the solution can be made (work not included) for 25 and 50 cents, respectively, per pound A 4 per cent solution is best, a higher percentage of gutta-percha may be used, but it rolls and scales off in an unpleasant way

He also experimented with pure celluloid and acetone, and Schering's celloidin with ether and alcohol These form a good covering, but are too expensive (about $1 35 per pound) for general use

For practical purposes, it seems to me the best way to put this on the market is to place the sterilized chips in small envelopes the same as dry catgut, having a sufficient quantity in each to make a 4, 8, 12 or 16 ounce solution The operator can then have sterilized benzine in his operating room and add the gutta-percha, thus making fresh solutions These, like soft rubber goods deteriorate with time, and if kept long in a hot room This is all avoided by keeping a supply of rubber chips as above mentioned

METHOD OF USE

The best method of applying is by dipping the hands into a small basin containing the solution It should be worked in around the nails and tips of the fingers and should be applied as high as the elbows Between operations the hands may be washed with soap and water, spirits of soap, alcohol, bichlorid, carbolic acid or formalin solution, without interfering with the rubber coating Brushes, however, should not be used After cleansing the hands and before proceeding with another operation, the fingers are redipped, as the coating wears off, but one application on the hands and forearms is sufficient for the entire day The skin of the operator does not become "water logged" or shriveled with the solution, as it does with the rubber glove The coating is best removed by washing the hands in benzine and drying rapidly with a towel

I quote as follows from a letter from Dr Van Buren Knott of Sioux City as an example of many received

> I have used the gutta percha solution for three weeks and am very much pleased with it I think it a very valuable protection during operative procedures I have used the solution with and without gloves, and in either manner have been well pleased I find it a most excellent means of protecting the hands in the application of plaster of paris, as it prevents the plaster from sticking to the skin and avoids the harsh rough feeling which follows the application of a plaster cast

Since my previous report, I have used the solution on my hands and on the operative field in all operations, septic and non-septic, and am convinced that it is a simple and practical means of protection for the operator and patient

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Overcrowding of the Profession in Belgium.—The *Gaz Méd Belge* remarks that it might be a good plan to shut up the medical colleges for ten years instead of hatching out a new crop of physicians every year There is no room for even those already on hand it asserts

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

PART II. THE SERVICE AS IT IS TO-DAY

(Concluded from page 733.)

SERVICE PUBLICATIONS

The surgeon general is required by law to transmit to Congress an annual report, containing a detailed account of the operations of the service for the previous fiscal year.

The quarantine law of 1893 makes it the duty of the service, under the direction of the Secretary of the Treasury, to collect sanitary information from all quarters of the globe, and to publish and transmit this information to collectors of customs, state and municipal health officers, and other sanitarians. The sanitary condition of the world's ports is thus reported and published weekly in the *Public Health Reports* of the service. Tables and special reports showing the prevalence of epidemics and contagious diseases in the United States and foreign countries are also published weekly in the *Public Health Reports*.

Supplements to the *Public Health Reports* and reprints from it are published by the service for distribution in communities afflicted by epidemic diseases. Publications of this character bearing on smallpox, scarlet fever, yellow fever, diphtheria, typhoid fever, measles and malarial fever are printed and distributed by thousands each year.

There is a great demand for the bulletins of the hygienic laboratory. These cover a wide scope in the field of experimental and preventive medicine, as indicated by the following list of bulletins published:

No. 1.—Preliminary Note on the Viability of the *Bacillus pestis*. M. J. Rosenau.

No. 2.—Formalin Disinfection of Baggage Without Apparatus. M. J. Rosenau.

No. 3.—Sulphur Dioxid as a Germicidal Agent. H. D. Geddings.

No. 4.—Viability of the *Bacillus pestis*. M. J. Rosenau.

No. 5.—An Investigation of a Pathogenic Microbe (*B. typhi murium* Danyz) Applied to the Destruction of Rats. M. J. Rosenau.

No. 6.—Disinfection Against Mosquitoes with Formaldehyd and Sulphur Dioxid. M. J. Rosenau.

No. 7.—Laboratory Technic: Ring Test for Indol. S. B. Grubbs and Edward Francis. Collodium Sacs. S. B. Grubbs and Edward Francis. Microphotography with Simple Apparatus. H. B. Parker.

No. 8.—Laboratory Course in Bacteriology and Pathology. M. J. Rosenau.

No. 9.—Presence of Tetanus in Commercial Gelatin. John F. Anderson.

No. 10.—Report on the Prevalence and Geographic Distribution of Hookworm Disease (Uncinariasis or Anchylostomiasis) in the United States. Ch. Wardell Stiles.

No. 11.—Experimental Investigation of *Trypanosoma lewisi*. Edward Francis.

No. 12.—The Bacteriologic Impurities of Vaccine Virus: an Experimental Study. M. J. Rosenau.

No. 13.—A Statistical Study of the Intestinal Parasites of 500 White Male Patients at the United States Government Hospital for the Insane. Philip E. Garrison, Brayton H. Ransom and Earle C. Stevenson. A Parasitic Roundworm (*Agamomermis culicis* n. g., n. sp.) in American Mosquitoes (*Culex sollicitans*). Ch. Wardell Stiles. The Type Species of the Cestode Genus *Hymenolepis*. Ch. Wardell Stiles.

No. 14.—Spotted Fever (Tick Fever) of the Rocky Mountains: a New Disease. John F. Anderson.

No. 15.—Inefficiency of Ferrous Sulphate as an Antiseptic and Germicide. Allan J. McLaughlin.

No. 16.—The Antiseptic and Germicidal Properties of Glycerin. M. J. Rosenau.

The Yellow Fever Institute was founded in the bureau in 1901 for the purpose of learning all that could be learned about yellow fever, including its etiology, and to bring to this work the aid of all reputable physicians who might desire to take part therein, its membership including, besides the officers of the Marine-Hospital Service, special investigators both in this and foreign countries. It is divided into four sections, the chairman of each section being one of the division officers of the bureau to which, under bureau organization, matter of a kindred nature would naturally come. These, together with the chairman and secretary of the institute, form an executive board to consider, especially with regard to publication, the contributions received from the members.

Thirteen bulletins have been published by the institute, and two working parties sent to Vera Cruz, Mexico, to study yellow fever. Although these investigators did not find the specific cause of yellow fever, they contributed a great deal of valuable information concerning the mode of transmission of the disease, and the life history and characteristics of the *Stegomyia fasciata*.

The bulletins of the Yellow Fever Institute are of particular interest to the people of the southern states, and of scientific interest to the profession at large. Thirteen of these bulletins have been published, and combined they present all that is known of the history, etiology, and characteristics of yellow fever.

THE HYGIENIC LABORATORY

The work of the service in scientific research is inseparably connected with the growth of the Hygienic Laboratory. The Hygienic Laboratory was established in August, 1887, at the United States Marine-Hospital on Staten Island, New York. In 1891 the bureau in Washington was given more commodious quarters in the Butler Building, and the laboratory was transferred from New York and occupied the top floor of that building for about twelve years. Much of the work done in the Hygienic Laboratory during these years had a direct bearing on the needs of the service. The disinfecting methods used by the service in quarantine and epidemic work were perfected and placed on a scientific basis largely through the work done in the laboratory. The result is shown in the elaborate system of disinfecting apparatus which, developed by the needs of the service, has been mechanically improved and scientifically tested until now it is conceded to be the most perfect of its kind in the world.

The service not only systematized and perfected the methods of utilizing steam and sulphur dioxid and other agents in the disinfection of ships and other habitations or objects, but was the first to exploit and test the value of that now universally employed agent, formaldehyd.

The advantage of training officers who have special aptitude for research work was early appreciated by the service, and such officers were detailed from time to time for duty in the Hygienic Laboratory. These courses were frequently supplemented by foreign details, with the opportunity of studying in some of the European scientific centers. The first authoritative publication on the treatment of diphtheria by antitoxin was issued by the service, and was the result of personal instruction given an officer of this service by Behring and Roux, who separately announced their discovery of the Budapest meeting of the International Medical Congress.

Another officer of the service in the laboratory of the Pasteur Institute studied plague and the methods of preparing a curative serum and prophylactic for its prevention. The work of preparing a prophylactic serum for plague was carried to consummation in the laboratory, and thousands of doses of Haffkine's prophylactic against plague have since been produced in the laboratory, and have been distributed to quarantine stations in the United States, Hawaii and the Philippines.

The first diphtheria antitoxin manufactured in the United States was made in the Hygienic Laboratory.

The rapid growth of the laboratory work and the necessity for a separate building were brought to the attention of Congress, and in March, 1901, a section of the act making appropriations for the sundry civil expenses of the government provided $35,000 for erection of the necessary buildings, and directed the cession, by the Secretary of the Navy, of five acres of the old Naval Observatory site for laboratory purposes The act approved July 1, 1902, changing the name from the Marine-Hospital Service to the Public Health and Marine-Hospital Service, greatly enlarged the scope of the laboratory work and provided for an advisory board, to be made up of an officer appointed from the Medical Corps of the Army, an officer from the Medical Corps of the Navy, a scientist from the Department of Agriculture, and five appointees from civil life not connected with the service of the government, who should be personally skilled in laboratory work in relation to the public health The advisory board consists of Prof Wm H Welch, Prof Simon Flexner, Professor Sedgwick, Prof Victor C Vaughan, Prof F F Wesbrook, Major W D McCaw, U S A, Surgeon J F Urie, U S N, and Dr Salmon, U S Department of Agriculture

The expansion of the laboratory, as effected by this act, provides for the addition of three new divisions, viz, chemistry, medical zoology and pharmacology

The building is now completed, and the work of the new divisions well under way The division of zoology has already done considerable work in the investigation of parasitic diseases of man, and the division of pharmacology has been engaged in the scientific investigation of drugs with regard to their potency and pharmacopeial purity

In accordance with an act passed July 1, 1902, providing for the licensing of all establishments engaged in interstate traffic, or in traffic in the District of Columbia, in viruses, serums, toxins, antitoxins and analogous products, the specimens and samples of these products are purchased in the open market and examined in the laboratory for purity and potency The result of this work has been that establishments that could not comply with the requirements of the law have gone out of business, and the larger firms engaged in the manufacture of such products have been required to maintain a high standard of excellence Where formerly it was common to find hundreds of micro-organisms in vaccine, the number found now rarely exceeds 100, and there is noted an almost entire absence of pathogenic and pyrogenic varieties

The hygienic laboratory is now preparing a standard diphtheria antitoxic unit for use in the United States in accordance with requests of manufacturers and recommendations passed by the American Medical Association and the American Pharmaceutical Association

The course of instruction now given in the laboratory to officers of the service covers a period of about twelve months Officers having completed this course are competent to do research work The service now has fifteen officers who have taken this course, and who are stationed in various parts of the world pursuing original investigations

In addition to the work indicated above, and to investigations of various contagious diseases, their etiology and modes of transmission, officers in the hygienic laboratory have done much work in the investigation of polluted water supplies, disinfection of railway coaches and other subjects affecting the public health

The results of the work done in the laboratory are published in the bulletins which are issued from time to time, a list of which has already been given under the head of service publications

Officers are frequently sent to investigate the cause or prevalence of disease A commission of service officers investigated and reported to the Senate on the prevalence of leprosy in the United States in 1902 The prevalence and geographic distribution of hookworm disease and its baneful effects in the south were demonstrated by an officer of the service and reported by him in the Hygienic Laboratory Bulletin No 10 Another officer of the service was sent last year to investigate a new disease, the so-called spotted or tick fever of the Bitter Root Valley in Montana The results of his studies are set forth in Hygienic Laboratory Bulletin No 14

IMMIGRATION INSPECTION

The medical inspection of immigrants became one of the duties of the service by act of Congress approved March 3, 1891 The subsequent immigration acts of 1893 and 1903 also provided that the medical inspection should be made by officers of the service

Under our immigration laws, persons suffering from loathsome or dangerous contagious disease, insane persons, idiots, epileptics, and persons likely to become a public charge, are excluded, and it is the duty of the medical inspector to detect such persons and certify their physical condition for the information of the immigration authorities The service also takes charge of the sick in the immigration hospitals, and has supervision over the hygienic surroundings of detained immigrants

Officers stationed abroad for duty in the United States consulates, under the quarantine law of 1893 have, in addition to their quarantine duties, examined aliens embarking for the United States They recommend to the steamship companies the refusal of passage to such aliens as would be likely to be rejected at United States ports under our laws This foreign inspection is now being made by officers of the service on duty in the United States consulates at Naples, Italy, Kolbe, Nagasaki, and Yokohama, Japan, Hongkong and other ports in the Orient The rejection of the alien at the port of embarkation is of such obvious advantage to the rejected alien, to the steamship company, and (in the case of a diseased alien being rejected) to the other passengers who would be exposed to infection on shipboard, that it is likely that provision will be made for maintaining a foreign inspection at all the principal European ports

The inspection of immigrants is carried on at all our seaports, and at points on the Canadian and Mexican borders where there is direct communication by rail or steamboat between the United States and either of the two countries mentioned

The magnitude of this inspection work can be appreciated if the fact is borne in mind that more than 850,000 immigrants arrived in the United States and were inspected by officers of the Public Health and Marine-Hospital Service during the fiscal year ending June 30 1903

Officers of the service receive special training for their work as medical inspectors of immigrants The immigration station at Ellis Island, New York, is used by the service as a school of instruction where young officers, before being detailed for immigration duty at one of the other ports of entry, are trained in the detection of the particular dis[illegible] and defects likely to be found in immigrants

FUTURE WORK [illegible] SE[illegible]

The future work of [illegible] the [illegible] work as outlined in th[illegible] service duties In addition, the work will expand naturally with the growth of the Republic and the more general application of advanced sanitary methods The General Government can secure uniform application of these methods in cities or municipalities only through the co-operation of state and local health authorities Such co operation is accomplished by the law of 1902 The conferences provided for by that law enable the surgeon-general to bring to the consideration of sanitary problems the concentrated knowledge of the most eminent sanitarians, and to secure through their co-operation uniformity of action in dealing with such problems

The annual conference called for by the act of 1902, bring the state health authorities into relation with the surgeon general and the United States Government, and in time the relations of the local and municipal health officers with their respective state boards and through the states boards with the Federal Government will be clearly defined by uniform state laws This will make a complete public health organization the like of which exists in no other country

The individual opinions and the product of their discussions in these conferences of state health officers with the surgeon general are of inestimable value in the solution of sanitary problems without in any way weakening the initiative, advisory or executive prerogatives of the Bureau of Public Health and Marine-Hospital Service

Disposal of sewage, purification of water supplies proper housing of the poor, and other subjects of moment, can be studied exhaustively by committees appointed by the Surgeon General from among the health officers of the various states

The idea of co-operation of health authorities, as fostered by the present Surgeon General, extends beyond the limits of the United States and as indicated in considering the International Sanitary Bureau, has reached the health councils of many foreign countries The elaboration of this idea, as formulated in the plans of the Surgeon General for international sanitation of seaports, will result in the eradication of the endemic foci of contagious diseases and the lessening or abolition of quarantine restrictions

The aspirations of the service—clean seaports, abolition of quarantine detention, pure water supplies, and slumless cities—may seem ideals set in the dim distant future, but in considering the marvelous achievements of sanitary science during the past five or six years one can not contend that such high ideals will not be realized, if the strenuous endeavor which has marked sanitary advancement in recent years be persevered in

As evidence of what may be accomplished in this direction, it is only necessary to consider the recent sanitary history of Habana The attitude of foreign governments and their desire for co-operation is shown by the recent request made to the Surgeon General, as chairman of the International Sanitary Bureau, by the Costa Rican Government for an expert sanitary adviser to be detailed from the Public Health and Marine-Hospital Service to supervise the sanitation of the city of Port Limon, which has been considered the worst menace to our seaport cities since the removal of Habana from the category of infected ports

Another illustration of international co-operation in matters of public health is shown to-day on the banks of the Rio Grande, where the health officers of both republics are working in harmony to make yellow fever on the Texas border a matter of history

The harmony of action existing between the Superior Board of Health of Mexico and the Public Health and Marine-Hospital Service of the United States, which has been so marked during the past year with regard to the sanitary condition on both sides of the Rio Grande, is the result, in part at least, of the First International Sanitary Convention, which was held in Washington, D C, December, 1902, referred to in another part of this article In January of the present year, through a visit of Surgeon-General Wyman to the City of Mexico, a complete understanding was effected, and a similar plan of campaign was agreed on, with regard to yellow fever, in both republics

The administration of quarantine in the canal zone on the Isthmus of Panama, will impose additional work on officers of the service The Canal Commission has requested that officers of the Public Health and Marine-Hospital Service be detailed for duty on the Isthmus in connection with quarantine and bacteriologic work This request is being complied with, and five officers have been detailed, one of whom has been made chief quarantine officer All sanitary measures, however, including quarantine, are under the general direction of the chief sanitary officer of the canal zone

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TRAVEL NOTES

IX *

A WINTER SEMESTER

LEWELLYS F BARKER, M D

CHICAGO

(Continued from page 675)

MUNICH, July 21, 1904

Following Gerhardt's example, the autopsy material from cases that have been studied previously in the clinic is thoroughly presented and discussed by Müller In his epicrisis he is less anxious to confirm a diagnosis which has been made than to emphasize diseased conditions which have been overlooked or mistakenly diagnosticated. The origin of a mistake is made clear, and the way it is to be avoided another time pointed out, the saying so frequently on the lips of Gerhardt, "*Wir hätten genauer untersuchen sollen,*" is evidently impressed on the students

The more advanced students and physicians who attend Müller's clinics are never turned empty away Notwithstanding his practice of presenting the more important clinical types so that the beginning students may possess standards in the memory and possess them thoroughly, the individual in each case is brought out and the more experienced student, therefore, is always seeing something new and having his critical powers developed It seemed to me that Müller, with all his simplicity, had the riper intelligences among his listeners ever in mind, there was always some nugget of the unusual present, though the collection of truths as a whole might be well known, the regular visitor of the clinic had daily opportunity of meeting with at least some kind of enlarging suggestion

The earmarks of earnest preparation were on every clinical lecture, one felt that the cases had not been sent in at haphazard, but that they had been subjected to rigid examination by the lecturer before presentation, and it required only a moderate familiarity with the more recent medical literature to be convinced that the latest and best articles in the bibliography had been regarded in the formation of the rounded view presented to the class Especially in the study of diseases of

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*The previous articles in this series have been as follows Travel as a Means of Post Graduate Medical Education by Dr Nicholas Senn July 23 Is a Trip to Europe Worth Its Cost to the Medical Man? by Dr Lewellys F Barker July 30 Spain and Ramon y Cajal by Dr Barker Aug 6 Leprosy in the Hawaiian Islands, by Dr Senn Aug 13 Italy and the Great Antimalarial Campaign by Dr Barker Aug 20 and 27 Father Damien the Leper Hero by Dr Senn, Aug 27 A Winter Semester by Dr Barker Sept 3 Medical Affairs in the Hawaiian Islands, by Dr Senn Sept 10

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STATE SUPERVISION OF PUBLIC AND PRIVATE CARE OF THE INSANE

The largest single enterprise in which the individual states in our country engage is the care of the insane The State of New York has an insane population of 23,000, cared for at an annual expense to the state of $5,000,000, and, although many states have a smaller number in proportion to their inhabitants, others have a still greater California, for instance, has 6,000 insane—a number larger in proportion to her population than any other state In passing it may be suggested that it would be an interesting subject of study to ascertain the causes of this heavy proportion of insanity in a comparatively new state

Everyone must have observed that there is at the present time a distinct renewal of public interest in this function of the state, a decided tendency to question the methods usually employed Public care of the insane is managed in several different ways California and New York, for instance, maintain all their public wards in state institutions, Wisconsin has a unique system of state subsidy to county asylums, while Illinois and most of the states divide their insane between state asylums and county poor-houses, the latter being theoretically for the chronic cases, although practically this is far from the rule It may be safely stated that the tendency is toward exclusive state care, as the state asylums are superior in equipment and in medical care, and the method is comparatively simple and compact. Adequate supervision over county institutions is difficult, if not impossible The question, however, is far from being solved by so simple an expedient as a change from county to state asylums It is clear that a malady which entails on its victims the double disabilities inflicted by insanity—mental and material helplessness—requires special safeguards, and consequently there has grown up everywhere a system more or less effective of public supervision of the care of the insane

Scotland is frequently pointed out as the country which has the most completely organized method of supervision—a method which for elasticity and effectiveness is unexcelled The Scotch system culminates in the Board of Lunacy Commissioners, consisting of five men, two unpaid and three salaried, the latter being physicians who hold their office during good behavior until the age of retirement at 62 Physicians who have served with special distinction on this board, such as Arthur Mitchell and John Sibbold, have been knighted on their retirement

Every insane person in Scotland is under the care and protection of this board, whether in a public or private institution, whether placed in a private family at state expense, or living with his own relatives The board has various deputies who act as visitors, but a large amount of personal supervision and medical examination is expected of the members themselves, as well as the usual supervisory and advisory duties which are ascribed by law to the State Boards of Charities in this country

Without going into the detail of the Scotch system, it can be seen that there is no wide difference between it and the one frequently employed in the United States, and, indeed, at the time it was adopted there is reason to believe that the framers of it received certain suggestions from our methods At that time, in the middle of the last century, the public care of the insane was a matter of much concern, and many asylums were building in our eastern states, which attracted from abroad men interested in learning American methods Yet now, while Scotland boasts an almost entirely satisfactory system, our own country is conscious of a growing dissatisfaction, not only in the condition of many individual asylums, but in the whole method of management, a dissatisfaction which expresses itself in more or less vague efforts at reform, in substituting administrative boards for supervisory bodies, boards of control for boards of charities We are not interested at this moment in judging between the relative merits of these different plans, to our mind the root of the vague distrust so generally felt in this country lies far deeper and can never be eradicated by superficial reforms

Bluntly speaking, the state political organizations of both parties have laid hold of the state institutions for the insane, and have used the appointments and appropriations for party ends, more or less extensively In some states this exploitation has not been necessary for party success, and the institutions have perhaps suffered little from it, but in others it has assumed the proportions of a plague Occasionally the institutions have been rescued by determined individual effort, as when the lamented Governor Mount of Indiana, by his personal will, pulled the asylums out of the hands of the politicians, but Indiana herself is a melancholy proof of the evanescent nature of a purely personal reform, since his successor has by no means shown the same spirit

Illinois, whose institutions were once the pride of the Middle West, has become the most conspicuous instance of the ruin wrought by political interference in public affairs which should be subject to physicians and humanitarians alone A recent series of editorials in the *Illinois State Medical Journal* has shown with indisputable clearness the fall of the Illinois institutions and the continual loss to the state of the most eminent men connected with them.

Perhaps no crueller sacrifice has been demanded by the political Moloch than that of Dr. Runge, superintendent of the St. Louis City Hospital. Although his scientific and humane management had given him a national reputation, he was compelled to resign a few months ago, and his untimely death from pneumonia, which followed almost immediately, is believed to be in part attributable to the mental strain entailed by his heroic but futile struggle against the politicians.

We may as well face the truth that there is a deep-seated evil which can not be eradicated by such superficial remedies as changing the form or the name of the power of boards, nor even by the mere passing of a merit law. The efforts of the profession and of the public must be permanently enlisted in demanding genuine devotion and expert ability in those who compose these boards. Given a board of the character which we have a right to demand—one free from interference of partisan politics—the enlargement of its scope to include private asylums would be a great gain. A system of state licensing and adequate supervision of private asylums would give the public a confidence in them which it now lacks, and would stimulate the creation of small private sanatoria, which are so rare in the whole Middle West. Our state asylums contain many free patients who could well afford to pay modest maintenance fees, and whose friends would prefer private care for them if the private institutions were at hand, and if the public did not feel a distrust in these, even greater, in some instances, than its distrust of the state institutions.

Above all, the appointments in the asylums must be made on a basis of merit, with the permanency which is found in similar positions abroad, and which is the *sine qua non* of good service. These conditions the public must understand, and these limitations the politicians must respect if the care of the insane in America is to keep pace with the general advance of humanitarian effort.

GANGRENE AS A COMPLICATION OF HEMOPHILIA.

Hemophilia is a familial blood disorder transmitted principally through females, who themselves generally escape. The first manifestations usually appear in childhood, and the affection is rare after adolescence. Death is the usual outcome. An attempt has been made to distinguish a spontaneous and a traumatic form of the disease, but it seems probable that traumatism occurs in all cases, perhaps slight and unobserved at times. Gangrene is a not uncommon complication, being attributable to the pressure exerted by extravasations of blood on the surrounding tissues. Hemorrhage sometimes takes place into a joint, and the blood may be absorbed or a panarthritis may result, with deformity and ankylosis.

The etiology of hemophilia is obscure. The hemorrhage has been referred by some to a disproportion between the relatively large amount of blood and the capacity of the vessels, by others to their small caliber and the delicacy of their walls and to fatty degeneration of the latter, and by still others to diminished coagulability of the blood. The disorder has further been considered of neuropathic and of infectious origin. A case of unusual character has been reported by Geza Faludi,[1] in which amputation became necessary in consequence of gangrene of one of the lower extremities. The patient was a boy, 6½ years old, in whom severe hemorrhage followed circumcision, probably ritual in character, in the first or second week of life. From the fourth month subcutaneous extravasations of blood began to appear in different parts of the body, at times as a result of insignificant injury, at other times independently of any obvious traumatism. In addition, there were hemorrhages from the nose and gums. During the second year a copious extravasation of blood took place into the left knee joint. At the age of 5 years, following a fall, the entire right upper extremity became swollen and in a short time cool, while the pulse was scarcely palpable. Improvement ensued under treatment, leaving, however, stiffness of the elbow joint and contracture of the fingers. Somewhat later an extravasation of blood took place into the right ankle joint and also profuse epistaxis. In the following month the child fell and, it was thought, suffered an injury to the right popliteal fossa. An extravasation of blood took place, gradually involving the entire distal portion of the extremity. The part became cool and insensitive, and large blebs formed on the surface. Finally gangrene developed, and amputation of the leg was performed at the junction of the middle and upper thirds. Conditions, however, gradually grew worse, and death took place two weeks later.

Postmortem examination disclosed, apart from the direct results of the operation, the presence of pulmonary edema, universal anemia, hemorrhagic extravasation into various muscles, bilateral hydrothorax, circumscribed adhesive pleurisy on the right, chronic circumscribed perisplenitis and perihepatitis, dilatation of the heart, fatty degeneration of the myocardium and parenchymatous and fatty degeneration of the liver and kidneys. In the joint of the amputated member the cartilage covering the astragalus and the bone itself, as well as the internal malleolus, were, in part, softened. The percentage of hemoglobin had been fifty, and the blood picture that of profound anemia. No marked change was found in the walls of the vessels. In the family history a maternal uncle had often suffered from hemorrhage, dying from this cause after extraction of a tooth. A prematurely born brother died on the thirteenth day from epistaxis.

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[1] Archiv für Kinderheilkunde, vol xxxix, Nos. 1 3 p 92.

THE TOXICITY OF BORIC ACID

The harmlessness of boric acid is assumed by all, so that it has come to be one of the most popular agents in the hands of both profession and laity, not to mention the preparers of foodstuffs As a lecturer on materia medica used to say to his classes, "Boric acid is valuable for the harm it has not done" Yet, as shown by an article on another page,[1] boric acid has, under exceptional conditions, been a cause of death in several instances If we put together the facts brought out by Best and the results obtained by Wiley in his series of experiments on the effects of boric acid in food, we have basis for a fair conclusion as to the exact limits of safety of boric acid

Wiley found that boric acid in quantities of four or five grams per day continued for some time results in most cases in loss of appetite and inability to perform work of any kind Four grams per day may be regarded as the limit of exhibition, beyond which the normal man may not go, a majority of normal men can take three grams per day for a somewhat protracted period and still perform their duties They commonly felt injurious effects from this dose, however, and it is certain that the normal man could not long continue to receive three grams per day One-half gram per day for 50 days produced in some instances somewhat unfavorable effects, so that it would seem that while this amount can be taken for a limited period of time without much impairment of health, its protracted use would not be safe It is estimated that a person eating butter and meat, both treated with boric acid as a preservative would receive, perhaps, as much as one-half gram per day If, however, the diet were varied, this amount would be reduced, and no harm might result in a very long time From this it may be concluded that occasional use of foods preserved by ordinary quantities of boric acid is not likely to cause any appreciable injury, but a dietary composed solely of such foods might, in the course of some weeks, cause much disturbance There seems to be particular danger of renal injury from the boric acid in its elimination, for about 80 per cent of the boric acid escapes in the urine

When very large quantities of boric acid enter the circulation in a short space of time, however, there is profound intoxication which, in five reported cases, has led to death There is no record of fatal poisoning from boric acid administered internally, all these cases having resulted from absorption from wounded surfaces The packing of wound cavities or the vagina with a solid mass of boric acid seems to be a not uncommon practice, although as a method of treatment it may be open to question It certainly is a dangerous procedure, whatever its therapeutic value, for, although large numbers of patients may show no harmful effects, yet it is evidently capable of causing serious and even fatal intoxication This procedure is based on the assumption that boric acid is non-toxic in any quantity, which is not true Care must also be used in irrigating large cavities with boric acid, since serious symptoms may result from the amount of it that may be absorbed from an empyema cavity or a lumbar abscess

PSEUDO ASCITES

Although free fluid in the peritoneal cavity is ordinarily recognizable with ease, other conditions may cause similar symptoms On the one hand, such fluid may, in consequence of adhesions or of gaseous distention, give rise to an asymmetrical area of dullness, while its mobility on change of position may be interfered with On the other hand, obese or edematous abdominal walls yield a sort of undulation on percussion, while properitoneal abscesses or lipomata, tumors of the intestinal wall, or deeply seated abdominal neoplasms or cystic tumors of the abdominal viscera may be a source of error in diagnosis The greatest difficulty of differentiation, however, is encountered in connection with a condition described by Dr L Tobler[1] as pseudo-ascites, which is dependent on the presence of fluid in distended small intestine with an elongated mesentery The affection was observed in children between two and one-half and nine years of age, and especially in girls It is characterized by gradual increase in the size of the abdomen, in connection with continued, intermittent or recurrent diarrhea, lasting for months or years The child, which may likewise be rachitic, becomes debilitated and emaciated It may exhibit also enlarged lymphatic glands or tuberculosis of bones or lungs There is, as a rule no fever, and subjective symptoms are usually wanting or there may from time to time be complaint of abdominal pain

As a rule the abdomen itself is distended, its cutaneous covering stretched shining or scaly, the umbilicus obliterated, the veins distinct In the standing posture the abdomen is not rarely pendulous, forming at times a transverse fold at the symphysis, and frequently the resistance is increased in the lower portions Variations in the state of the abdomen take place, and distention may be replaced by relaxation with a sense of doughy resistance in the hypogastrium, and at times a splashing sound may be appreciable Undulation may be present in either event, the most distinct and shortest wave impulse being obtained when the area of dullness is considerable and symmetrical and the tension of the abdominal walls is marked The impulse is not appreciable above the level of dullness as it is in the presence of true ascites The percussion-dullness varies in extent, position, outline and mobility in individual cases and in the same case at different times

The condition must be differentiated especially from chronic exudative peritonitis, particularly of tuberculous origin In both the physical signs develop gradually but the latter is likely to be attended with fever, severe persistent pain and uninterruptedly progressive aggravation, while in the former the signs are variable, with remissions and exacerbations. The former is further characterized by diarrhea, the stools being numerous, often copious and presenting catarrhal features, while the dejections of tuberculous peritonitis are few and thin. Although the physical signs are suggestive of the presence of fluid free in the peritoneal cavity, such a condition is not found on operation or at autopsy. The peritoneum is, as a rule, entirely uninvolved, and solid and cystic tumors are wanting. The phenomena are best explained by the presence of fluid in portions of the intestinal tract whose tone is impaired as a result of catarrhal conditions, and which are at times displaced downward in conjunction with elongation of the mesentery.

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[1] See page 805

[1] Deutsches Archiv für klinische Medizin, vol lxxx Nos 3 4 p 288

THE PHILIPPINE OPIUM REPORT

The plan recommended for the regulation of the opium traffic in the Philippines, as reported, is one that commends itself. While the government controls the sale it makes no profit, which relieves us from the reproach justly made against the British Indian Government for its action in this matter. The total abolition of the sale in three years which is provided for will, it is to be hoped, be successfully carried out. Wherever the Chinese abound the opium problem exists, but unfortunately, the evil extends from them to other races. The trouble that the Japanese Government has had with it in Formosa possibly indicates somewhat the difficulties to be met with in the Philippines.[1] But the success they have attained is encouraging for our own authorities. It will be a pity if we can not manage this matter as satisfactorily as do the Japanese.

CUBAN SANITATION

It is generally understood that the arrangements by which the independence of Cuba was secured included provisions for adequate sanitary measures being adopted by the Cuban authorities to prevent danger of transmission of disease to this country. It appears that difficulties have been experienced, that local authorities refuse to co-operate, and that in some of the interior cities the conditions are far from satisfactory. It is unfortunate for Cuba if it has failed to make provision for central control of sanitation or for such measures as would compel the local authorities to do their duty. If an epidemic of yellow fever or any other tropical infection should be transmitted to us from infected points it would be difficult for the Cuban Government to escape the charge of bad faith and treaty violation. Of course, the greatest danger lies in the principal seaports, and we believe that Havana at least, under the able administration of Dr. Finlay, is in good sanitary condition. There are other places and possibilities, however, which he can not control, and it is to be hoped that whatever is lacking at the present time in other localities will be remedied. Cuba owes it to herself, as well as to this country, to see that the wretched sanitary conditions of the past be not again allowed to develop.

A FACTOR IN THE ANEMIA OF UNCINARIASIS

The impetus given to the study of tropical diseases in this country by the acquisition of the Philippine Islands has led to the recognition of the fact that many of the so-called tropical diseases are to be found in the semitropic regions of North America. One of the diseases of this character which is probably very widely distributed in the Southern States, is uncinariasis. The uncinaria has been widely studied, both in the tropics and in the temperate zone, where it produces the so-called tunnel anemia or miner's anemia. A fact which has often been commented on in the various published studies, is the discrepancy which often occurs between the number of parasites and the severity of the anemia. A very severe anemia may exist, and yet very few worms may be present in the intestinal tract. Some recent work of Loeb and Smith[1] seems to explain the manner in which a few worms may cause a grave anemia. These writers have shown that there is present, in the anterior end of the parasite, a substance which has, to a marked degree, the power of inhibiting the coagulation of the blood. It has been known for some time that one worm often makes a series of punctures, and this being the case, it is easy to imagine a considerable loss of blood from each of these if coagulation be retarded.

LIGATION OF THE EXTREMITIES AND AUTO TRANSFUSION

Ligation of the extremities by means of elastic bandages applied not too firmly to the thighs and arms has long been known and practiced as a measure for the control of hemorrhage, particularly from the lungs, the object being to check the return of venous blood without interfering with the arterial supply. As a result, the blood pressure falls and bleeding ceases. The opposite conditions are brought about by the application of the bandage from the periphery in a proximal direction, constituting the procedure that has been designated autotransfusion. Dr. W. Plaskuda[2] reports the results of an investigation undertaken for the purpose of determining experimentally the amounts of blood that can be removed from or supplied to the circulation under the circumstances detailed, and also the state of the blood pressure in the free vessels. He found that from three-quarters of a liter to one and one-quarter liters of blood can be removed from or conveyed to the trunk and the head by ligation or bandaging of all four extremities by means of rubber bands. Marked stasis in three extremities lowers the blood pressure about 20 millimeters of mercury (14 per cent.). The results are somewhat variable and uncertain in nervous individuals. Occasionally, however, states approaching collapse develop in conjunction with sudden and more marked reduction in pressure, but these disappear rapidly when the bandages are released. When anemia is induced artificially in several extremities the blood pressure is decreased, apparently as a result of nervous rather than of mechanical influences.

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[1] THE JOURNAL, April 2, 1904, p. 931.

[1] Proceedings of the Pathological Society of Philadelphia, June, 1904.

[2] Deutsches Archiv für klin. Med., vol. lxxx, Nos. 5-6, p. 492.

BAD SPELLING BY PHYSICIANS

Among the general criticisms on medical education in this country, one of the chief is that based on lack of preliminary educational acquirements This has been the subject of many rather severe comments, both in the medical and secular press, as well as in the reports of the state examining boards like that of Pennsylvania One of the more notable defects of candidates is that of the inability to spell properly, and this is apt to be taken by some as an index of general illiteracy Nothing appears worse than bad spelling, and yet it seems to be a fact that deficiencies in orthography are more common at the present time, in spite of all the advances that have been made in educational standards, than they were a generation or so back There must be some defect in modern school methods, and the conviction that this is so appears to be growing It is possible that the abandoning of oral and syllableizing methods of teaching spelling is largely responsible The modern plan seems largely to be to educate a visual memory, and this is not necessarily by any means the characteristic of the highest mental development An experienced teacher remarked that she had noticed that the good mathematicians among her scholars were the poorest spellers We do not know how general this observation is but it is at least significant, and it is possible as the *Maryland Medical Journal* admits, that one may be an accomplished physician and yet a bad speller We fear that instances of this kind will be more numerous than they should be among physicians of the present generation We have no desire to excuse bad spelling by physicians, but we would like to say a word in favor of a possible reform in pedagogic methods which may be more or less responsible Spelling reform of this particular kind, or rather reform of the teaching of spelling, is hardly a medical subject, but it has medico-psychologic bearings that are worthy of attention

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THE INSANITARY FLAT

Judging from the records of the building department of the city of New York, according to a lay paper, only sixty private houses were erected last year in the whole of Manhattan Island, while the number of apartment buildings erected during the same period reached into the thousands This record is repeated, to a greater or lesser extent, in all of our large cities, and the building of flats and tenement houses extends also to the suburbs We are becoming less and less a home-dwelling people, and are crowding more and more into what the paper quoted calls "human honeycombs" This may be a normal phase of social evolution The fact indeed that it occurs so extensively supports this view It has, however, its threatening side It is a factor in the much-discussed race suicide which some consider threatening Children are not favored in these buildings nor do flats furnish the ideal conditions for their welfare It is mainly in the lower grade of tenements and in the slums that children abound, and their condition there is a very serious urban sanitary problem There are, however, other hygienic disadvantages in this concentration of humanity, such as the questions of ventilation and sunlight, which are often seriously restricted and embarrassed in these tenements It is not in the highest-priced and most luxurious of this class of dwellings that we find the most of these defects, as the rich can provide for themselves, but in the cheaper ones—those which are occupied by the great mass of workers of the intermediate class, the clerks, the professional men, the better class of mechanics The housing of the poor is a perennial question for philanthropists, but the housing of the middle class has hardly been considered by them, notwithstanding the fact that in our large cities it is becoming more and more a serious question We have already called attention to this subject, and showed the fearfully insanitary conditions that must exist as regards sunlight and ventilation even in some of the higher-priced flats We can not expect a healthy people to grow up under such conditions, and if we escape physical degeneration, with the growing tendency toward flat building in our centers of population, it will be through a special Providence—certainly not from causes that we can rationally foresee with our present lights

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THE PRIMARY SEAT OF INFECTION IN FATAL CASES OF TUBERCULOSIS

It is a matter of no small difficulty to determine the primary seat of infection in many cases of tuberculosis The age of the lesions can not always be accurately estimated from either their intensity or their extent The question at issue has, however, distinct practical significance, inasmuch as the prophylactic measures to be instituted must be based on the decision reached With the view of establishing the relative frequency with which the abdominal and the thoracic viscera respectively are invaded primarily, Dr J Odery Symes and Dr Theodore Fisher[1] have analyzed the postmortem records of 500 cases in which death took place as a result of tuberculosis They found that, of 102 cases in patients under the age of 12 years, 12 appeared to be definitely abdominal in origin and 57 definitely thoracic in origin, while in 24 there was doubt as to whether the origin was abdominal or thoracic The primary lesion, it is thought, was possibly situated in bones or joints in 4 cases, in the skin in 1, in the tonsil in 1, while no focus that could be considered primary was found in 3 Between the thirteenth and twenty-fourth years there were 8 cases apparently primarily abdominal, 31 primarily thoracic and 3 of doubtful origin, while between the twenty-fifth and thirty-sixth years the proportion of cases primarily abdominal to those primarily thoracic was as 1 to 9 66, and between the thirty-seventh and the forty-eighth year as 1 to 9 25 Between 48 and 60 there was no case in which the disease was primarily abdominal and above 60 there was but 1 of this kind and 7 in which the disease was primarily thoracic In three cases the kidney appeared to be the organ first affected and in two the epididymis In two fatal cases of Addison's disease the adrenal glands alone were the seat of tuberculosis From the foregoing observations it appears that during the first twelve years of life tuberculous infection by way of the air passages is four times as common as that by way of the alimentary canal, and the ratio is about the same during the second twelve years, but deaths in hospitals above the age of 12 years can hardly be considered as representing the average causation of death from varieties of tuberculosis for the whole population above that age, because cases of tuberculosis of the lungs are more chronic at that time than at an earlier period of life, and they are not usually admitted to ordinary hospitals Notwithstanding the exclusion of cases of chronic pulmonary disease from hospitals, the proportion of cases of abdominal to those of thoracic tuberculosis in the institutions from which the data were obtained was exceedingly small after the age of 24

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[1] British Med Jour, April 16 1904 p 884, see THE JOURNAL May 7 p 1255

Medical News.

ALABAMA

Personal.—Dr Marvin W Dupree, Mount Vernon, assistant at the State Hospital for the Insane, has resigned and taken up practice at Athens

Smallpox.—Dr William C Wheeler Huntsville, health officer of Madison County, reports that there are about 10 cases of smallpox at New Hope, but that they are thoroughly isolated.

Acquitted of Murder—Dr John B Farley, of Farley, Madison County, charged with the murder of Davis Johnston, was acquitted, August 29, after a trial lasting two days He claimed that he acted in self defense

Statue to Dr W E B Davis—The memory of the late Dr William E B Davis Birmingham, is to be perpetuated by the erection of a monument by the Southern Surgical and Gynecological Association, of which Dr Davis was the originator The statue is being made by G Moretti, and will be in bronze, 7½ feet high, standing upon a granite pedestal 9½ feet high He has made an indemnity contract to have the statue ready by December 1 that it may be unveiled at the coming meeting of the association

ARIZONA

Typhoid at Douglas.—It is alleged that there are more than 75 cases of typhoid fever in Douglas, and that the condition of the city is inexcusably unsanitary

Appointed Examiner—Dr Charles H Jones has been appointed a member of the Territorial Board of Medical Examiners, vice Dr William Duffield, Phoenix, resigned to become superintendent of public health

Hospital at Bisbee—Ground has been broken for the new Calumet and Arizona Hospital at Bisbee The building will contain four wards, private, operating, sterilizing and anesthetizing rooms, and laboratories, and will accommodate 50 patients

Plague Only a Rumor—On account of startling announcements regarding 'black heart" and "bubonic plague" in and around Bisbee, acting assistant surgeon A. L Gustettee, U S P H. and M H Service, has made a thorough investigation of the situation and reports that there are absolutely no grounds for the rumors, and that there is no epidemic disease prevalent in Bisbee

CALIFORNIA.

Personal.—Dr Rupert Blue San Francisco, has been elected president of the Public Health Commission of California.——Dr Joseph D Davidson, Fresno, returned from Europe, August 24

Plague on Steamer—The *Coptic*, which arrived at San Francisco from the Orient, August 29 was sent to the quarantine station on account of the death of a Corean passenger near Honolulu from bubonic plague

Kitasato in America.—Dr S Kitasato, president of the Institute for Infectious Diseases, and of the Serum and Lymph Institutes of the Imperial Government of Japan, arrived in San Francisco, August 29, en route to the Congress of Medicine at St Louis

Made Democratic Elector—Dr William M S Beede, Stockton, a member of the American Medical Association, Medical Society of the State of California and San Joaquin County Medical Society, who was United States consular surgeon at Hong Kong from 1896 to 1900, has been nominated as a democratic presidential elector

Medical Arrangements at Conclave—The medical arrangements at the triennial conclave of Knights Templar, at San Francisco, were excellent Dr Curtis G Kenyon was chairman of the committee, which maintained headquarters at the Palace Hotel, and an emergency hospital at the Mechanic's Pavilion, a staff of 40 mounted physicians in the parade, and a complete ambulance service

For the Sick.—St Vincent Hospital and Medical Association has been incorporated at San Francisco with a capital stock of $75,000 by Drs Joseph P Le Fevre, John C Newton, and others ——The Southern Pacific Railway will establish a hospital at Dunsmuir——The Los Angeles College Clinic Association has been incorporated without capital stock, by Drs Joseph Kurtz, William LeM Wills, H. Bert Ellis, William D Babcock and Granville MacGowan The purposes of the association are to establish and conduct a hospital and dispensary for the treatment and care of the indigent sick and injured persons, to treat emergency cases and such other sick and injured persons who may be or become a charge upon the city, to conduct and maintain an institution for instructing, educating and training men and women in the sciences of medicine and surgery

DELAWARE

Nominated for Governor—Dr Joseph H Chandler, Centreville, has been nominated for governor on the Republican ticket

Ohio Hospital Incorporated.—Papers of incorporation have been filed in Wilmington for the Marion (Ohio) City and County Hospital Company, with a capital stock of $50,000

The Chandler Dinner—At the twelfth annual dinner to the medical profession, and the Dr Chandler Medical Club of Delaware, held at the home of Dr Joseph H Chandler, in Centreville, the address of welcome was delivered by Dr Swithin Chandler Philadelphia, papers were read by Drs Hobart A Hare, William L. Rodman, John G Clark, John H. Musser, Henry Boenning, and W M L. Coplin, Philadelphia, a paper was read also by Dr A. Robin, Wilmington, and a poem by Dr James H Morgan, Wilmington.

DISTRICT OF COLUMBIA

Ordered to Chair of Tropical Diseases.—Medical Director Phillips A Lovering, U S Navy, has been ordered from the Asiatic Station to Washington, to assume the new chair of tropical diseases, in the Naval Medical School

The Year's Deaths—The mortality per 1,000 in the District was 20 14 for 1903, while for 1902 it was 19 99 The increase occurred during January, February, March, November and December, was altogether among the white population, was chiefly between the ages of 65 and 69, and was chiefly due to diseases of the nervous and circulatory systems and to violence.

Woodward Not Convinced.—Dr William C Woodward, health officer of the District, despite the suggestion of the Agricultural Department that copper sulphate be used in the public reservoirs as a disinfectant, is not convinced, believes the matter is still one of experiment, and is not sure that instead of typhoid fever prevention, copper poisoning might result from the use of this substance in the drinking water supply of Washington

GEORGIA.

Personal.—Dr Ludwig Amster, Atlanta, has returned from Europe——Dr E G Adams, Greensboro, has been appointed resident physician at the Presbyterian Hospital, Atlanta

Fined for Cocain Selling—Dr Millard B McAfee, Atlanta, charged with the illegal sale of cocain to negroes, who admitted on trial that he had written 80 prescriptions for cocain in a single day, was fined $100 and bound over to the city court under a $200 bond, August 23

Tuberculosis Board Named.—On August 31 the governor named as a medical commission on tuberculosis From the state at large—Drs Charles Hicks, chairman, Dublin, Louis H Jones, Atlanta, Ernest P Ham Gainesville, Palarmon T Hillsman, Albany, Joseph R. Burdette, Tennille, Pryor W Fitts, Greenville, S A Brown, Dalton L. G Hardman, Commerce, Loyd J Belt, Millen, and John L. Walter, Waycross From the congressional districts—1, Dr Eugene R Corson Savannah, 2, Dr O B Bush, Camilla 3, Dr Alexander

Mack, Hawkinsville, 4, Dr Henry R. Slack, La Grange, 5, Dr Bernard Wolff, Atlanta, 6, Dr George L Alexander, Forsyth, 7, Dr Thomas R Garlington, Rome, 8, Dr Henry E Thornton, Hartwell, 9, Dr Jefferson Davis, Toccoa, 10, Dr Thomas D Coleman, Augusta, and 11, Dr S E Sanchez, Barwick

ILLINOIS

Personal—Dr Amos F Moore, Dixon, has been appointed district surgeon for the Chicago and Northwestern Railway, vice Dr Henry E Paine, deceased

Brutal Assault—Dr Henry E Lightfoot, Carbondale, was attacked by unknown individuals, August 20, struck on the head with a blunt instrument and rendered unconscious

Smallpox—At Belleville 9 new cases were reported, September 8 Strict quarantine regulations were ordered to be maintained ——Centralia has had 13 cases, and believes the spread of the disease has been checked

Arranging for State Society—The profession of Rock Island is already organizing for the comfort and entertainment of the Illinois State Medical Society, which is to meet in Rock Island in May next Dr Carl Bernardi has been made chairman of the committee of arrangements, Dr George G Craig, vice chairman, and chairman of the reception committee, and Dr Frank H First secretary treasurer Dr William H Ludewig is chairman of the committee on advertising and invitation, Dr J R. Hollowbush, entertainment, Dr B F Hall, hotels, lodgings and halls, Dr St Elmo M Sala, exhibits, Dr Joseph D Silva, finance, Dr Emily Wright, entertainment of ladies, and Dr Shelley B Hall, transportation

Chicago

Semon in Chicago—The Chicago Laryngological and Climatological Society gave a dinner in honor of Sir Felix Semon, at the Chicago Club, September 15

A Correction—Dr Vida A Latham writes that she was elected vice president of the American Microscopical Society, and not secretary, as stated in THE JOURNAL of September 3 Dr Robert H Wolcott, of the University of Nebraska, was elected secretary

Children Have Smallpox—The spread of smallpox among children is causing grave concern to the department of health On September 10, four children were taken to the Isolation Hospital, and one little patient died there There are now 15 patients in the hospital

Personal.—Dr Olander E Wald has been appointed chief surgeon of the Bethesda Hospital ——Drs Arthur D Bevan and James Chvatal have been nominated on the committee to represent Chicago at the Louisiana Purchase Exposition, on "Chicago Day," October 8 ——Dr Joseph Z Bergeron has returned from Europe

Death-Rate Continues Low—For the week ended September 10, 443 deaths were reported 48 less than for the previous week, and 61 less than for the corresponding week of 1903, the respective annual rates per 1,000 being 11 98, 13 27, and 14 02 Acute intestinal diseases caused 97 deaths, consumption, 49, violence, 45, and heart disease, 35

KENTUCKY

Smallpox has appeared in Mayfield, where there are four cases in one family, and among the negroes near Pembroke, where four cases have been discovered

Stringent Rules Adopted—The State Board of Health has adopted stricter rules, requiring examination of physicians of other states desiring to practice in Kentucky, limiting medical colleges to cities of 50,000 or more population, prohibiting medical colleges from having more than one school term a year, and requiring preliminary examination of all prospective medical students

One Year's Deaths in Louisville—Dr Maverell K. Allen, health officer of Louisville, reports that during the year ended August 31, 4,092 deaths occurred, a death rate of 17 56 per 1,000 The rate among white people was 15 2 per 1,000, and among the colored population, 27 4 Tuberculosis caused 562 deaths, pneumonia 467, heart disease, 284, violence, 182, Bright's disease, 167, cancer, 125, apoplexy, 145, typhoid fever, 112, and meningitis, 100 September, June, July and August were the months of greatest mortality

Personal—Dr Joseph M Ferguson, South Carrollton, has been appointed second assistant physician at the Western Kentucky Asylum for the Insane, vice Dr James W Stephens, transferred to the Central Kentucky Asylum Lakeland ——Dr William N Offutt, Lexington, has been made captain and assistant surgeon of the Second Kentucky Infantry, vice Dr William J Foley, Lexington, made regimental adjutant ——Dr James M Mathews, Louisville, has been appointed a member of the International Commission of Awards at the World's Fair, St Louis

MARYLAND

Nominated for Congress—Dr Richard S Hill of Prince George's County has been nominated for Congress He is a graduate of Georgetown University Medical School, and is at present a member of the Maryland House of Delegates

Answer to Mandamus Suit—In its answer to the suit for mandamus brought against it by Dr Campbell F Flautt of Baltimore, the State Board of Medical Examiners denies that Dr Flautt is entitled to a license to practice, and avers that on two occasions (in 1901 and 1902) he failed to pass the examination While admitting that Dr Flautt graduated from the Baltimore Medical College in 1901, it denies that he was a physician or surgeon lawfully practicing in Maryland prior to Jan 1, 1898 It claims it has no authority to issue a license to persons whose sole right to practice medicine rests on the irrelevant fact that they "had practiced medicine and had in their professional capacity and within a year prior to Jan 1, 1898, treated 12 persons" The only persons entitled to a license to practice medicine in Maryland under Section 72, Article 43, of the code, it is claimed, are those who have passed the required examinations, and physicians from other states

Baltimore

Personal—Drs Hugh H Young, William A Fisher and Richard H Follis have gone on a week's trip to Manassas, the Valley of Virginia, and the University of Virginia

Want City to Maintain Beds—A committee from the Baltimore University Hospital called on the mayor, September 1 to request that the city contract with that institution for free beds for public patients The Supervisors of City Charities, to whom the matter was referred by the mayor, have not maintained city beds in that hospital for a considerable time

Honor Dr Remsen—The Society of Chemical Industry, meeting in New York City last week, paid a high tribute to Dr Ira Remsen, President of Johns Hopkins University, by awarding its medal to him This medal was founded in 1896, and is awarded every two years for conspicuous service rendered to applied chemistry, by research, discovery, invention, or improvements in processes Probably the most noteworthy discovery made by Dr Remsen was saccharin, discovered in his laboratory in 1879 His "Chemistry" has been translated into German, French, Italian and Japanese, and is used in colleges in all those countries, and in nearly every college and university in America, and his "Organic Chemistry" is also well known

NEBRASKA

Personal—Dr George W Ira, for eighteen years agency physician at the Santee Indian Reservation, Knox County, is about to move to Lynch, Boyd County

Hospital for Falls City—Drs Frank C Wiser and Isaac M Houston, Falls City, have equipped a 28 room building as a hospital, to be known as Mercy Hospital, and to be open to all reputable practitioners

Dr Orr Married.—On September 7, at Grinnell, Iowa, Miss Grace Douglass of that city was married to Dr H Winnett Orr, Lincoln, editor of the *Western Medical Review* They will be at home at 1114 H Street, Lincoln, after October 1

Fined Because Not Registered—Dr Nils P Hansen Oakland, arrested on charges filed by Isaiah Lukens Tekamah, for the illegal practice of medicine, was found guilty as charged, and fined $50 He had neglected to file his registration with the county clerk, as required by law

NEW YORK

Typhoid at Jamestown—An epidemic of typhoid is reported from Jamestown

Buffalo Voyagers—Dr A L Benedict has sailed for a short sojourn in Europe ——Drs W Scott Renner and Frederick J Barrett have returned from Europe

Hospital Charges Dismissed—The State Board of Charities has dismissed the charges against the physicians of the Sydenham Post Graduate Course and Hospital on the grounds that this institution does not receive public funds, and, therefore can not be under its jurisdiction

Hydrophobia at Ithaca—About two weeks ago a rabid dog ran about in Ithaca, biting several animals The veterinary department of Cornell University inoculated a number of guinea pigs with the saliva of the rabid dog, and successfully A number of people have been bitten by these animals, but so far only three cases of hydrophobia have developed

Incubators at Coney Island—Because of the charges recently made against the baby incubator system at the St Louis Fair, Arthur M Bishop president of the New Jersey State Society for the Prevention of Cruelty to Children, in company with several superintendents of state and local institutions, inspected the incubators at Coney Island They expressed themselves as being satisfied.

High July Death Rate—The State Department of Health reports a total of 12,061 deaths for July, equivalent to an annual death rate of 18.5 per 1,000 The deaths were 601 above the average of July for the last five years The increase was mainly due to four causes Acute diarrheal diseases, diseases of the digestive system, diseases of the nervous system and violence Of all deaths, 53 per cent were of children under five

New York City

Sale of Carbolic Acid Restricted—An amendment to the sanitary code has been adopted restricting the sale of carbolic acid in concentrated form and compelling druggists to dispense a 5 per cent solution only

Hebrew Convalescent Home—Initial steps have been taken toward the organization of the Hebrew Convalescent Home Association It is proposed to buy a tract of land in Westchester County for the erection of an edifice for this purpose

A New Office for the Bronx.—The rapid increase of population in this locality and the recent typhoid scare have made more effective sanitary work necessary, and Dr Charles F Spencer has been appointed chief inspector of contagious diseases in the district

Contagious Diseases—There were reported to the sanitary bureau for the week ending Sept 3 1904, 200 cases of diphtheria, with 28 deaths, 70 cases of scarlet fever, with 5 deaths, 57 cases of measles, with 3 deaths, 334 cases of tuberculosis, with 162 deaths, 118 cases of typhoid fever, with 13 deaths, and 10 deaths from cerebrospinal meningitis

Personal.—Dr James C Hallock, a retired physician, was assaulted and received a serious scalp wound while sitting in Prospect Park ——Dr Martin Auspitz, while driving a patient home from his office, collided with an electric car, the patient sustained a fracture of the skull, a boy stealing a ride was killed and Dr Auspitz was painfully injured

OHIO

Accidents—Dr Oliver A Price, Cincinnati, while visiting in Columbus, August 28, was thrown from an electric car, sustaining a compound fracture of the right leg, and dislocation at the ankle joint ——Dr Le Grand Gribble, Pomeroy, was accidentally wounded while shooting in Bedford Township, August 30

Medical Library for Akron.—In memory of his father Dr H M Fisher of Akron, his son Frank T Fisher, New York City, has donated to the Summit County Medical Society his father's medical library to become a part of the Akron public library, and to be known as the "H M Fisher Medical Library" Mr Fisher promises in addition to give $100 a year for the purchase of new books

Cincinnati Personal.—Dr Charles A L Reed, who has spent the last three months in Europe, has returned home ——Dr Earl H Bruns, resident surgeon of Cincinnati Hospital, has passed his examination for entrance to the Medical Corps of the Army, and will leave for Washington October 1, for an eight months' course in the Army Medical School ——Dr and Mrs J C Culbertson have returned from Georgian Bay

Staff for New Hospital.—The following have been named as the staff for the new Springfield Hospital, which is to be opened next month Surgical—Drs Read L. Bell William B Patton, Robert C Rind and Louis L Syman, medical—Drs Jay D Thomas, George F Brubaker Clinton M Hiestand, Stanley R. Hutchings, Charles W Evans and Noah Myers, eye and ear—Drs Charles L Minor and John C Easton, obstetrical—Drs John M. Buckingham, William A Smith, and Clarence S Ramsey, diseases of children—Dr D King Gotwald, nervous diseases—Dr Clarence H Kay genitourinary diseases—Drs Henry Baldwin Jr and Ira E. Seward, pathologist—Dr Frank P Anzinger, skiagrapher—Dr Emory F Davis, and consulting staff—Drs Ezra C Harris, John P Dugan, Bennetta D Titlow, Allen H Vance and D Walter Spence

OREGON

Personal.—Dr James F Bell has been appointed to fill the place in the Portland Board of Health made vacant by the death of Dr William H Saylor ——Dr Thomas M Henderson, Pendleton, has been elected coroner of Umatilla County

Medical Building for Willamette—There is urgent need for a special building for the medical department of Willamette University, Salem, and it is estimated that the building will cost $17,000 Already two subscriptions, one of $2,500 and the other of $1,000 have been made toward the building fund

Medical Board Election.—At the annual meeting of the State Medical Board the following officers were elected President, Dr Walter E Carll, Oregon City, Dr Byron E Miller, Portland, secretary, and Dr Angus B Gillis, Salem, treasurer Dr Andrew C Panton, Portland, was appointed a member vice Dr William H Saylor, deceased

Oregon State Medical Society—The thirty first annual meeting of this society was held in Portland August 30 and 31 About two hundred physicians were in attendance and the program was of unusual interest In addition to the papers presented by the profession of the state, Dr Charles H Mayo, Rochester, Minn, presented a paper on "Cancer of the Large Bowel" Dr Walter C Williamson, the president, entertained the members of the society at an informal reception and smoker at his residence, and the City and County Medical Society of Portland were hosts at a banquet at the Hotel Portland on the second evening The following officers were elected Dr George F Wilson, Portland, president, Drs Mae H Cardwell, Portland William H Boyd, Salem, and William L. Wood, Portland, vice presidents, Dr Luther H Hamilton, Portland, secretary, Dr Jessie M McGavin, Portland, treasurer, and Drs R C Coffey and Henry W Coe, Portland councilors Dr Kenneth A J MacKenzie, chairman of the committee of arrangements for the reception of the American Medical Association, to be held in Portland in 1905 has named the following committee to assist him in his work Drs Henry W Coe, William Jones Andrew C Smith George F Wilson, Andrew J Giesy and Ernest F Tucker, all of Portland

PENNSYLVANIA

Dr Lampman's Will.—The will of the late Dr John S Lampman, Wilkesbarre, devises the entire estate, valued at $39,500, to his wife, and on her decease, to his two sons

Reception to Surgeon General Weaver—The physicians of Norristown gave a reception and banquet, September 6, in honor of Dr Joseph K. Weaver, who was recently appointed surgeon general of the National Guard of Pennsylvania

Typhoid Still Dominant—Of 21 cases of contagious diseases reported at Pittsburg, September 4 and 5, 15 were typhoid fever, and of 16 cases reported September 6, 7 were of this disease In the week ended August 27, 73 of the 113 deaths were due to typhoid fever

Texas Fever—A large number of the cattle received from the west in the stockyards of Chester and Lancaster counties have been found to have Texas fever, and a large number of deaths have occurred The disease has spread rapidly throughout these counties, and is recently reported in Berks County also

Personal.—Drs Frederick H. Bloomhardt and Charles I McBurney have resigned from the Altoona Board of Health ——Dr Daniel Webb has been appointed to the surgical staff of Lackawanna Hospital, Scranton, vice Dr Alexander J Connell, chief-of staff, resigned, and Dr Addison W Smith has succeeded Dr William G Fulton, who has been made a trustee Dr Reed Burns has been appointed chief of the surgical staff

Philadelphia.

Dr Eshner Married.—Announcement cards have been received of the wedding of Dr Augustus A Eshner to Miss Julia Friedberger, which occurred September 7 Dr and Mrs Eshner will reside at 1019 Spruce Street

Personal.—Dr Alexander C Abbott, chief of the bureau of health, and professor of hygiene in the University of Pennsylvania, will deliver the inaugural address at the formal opening of McGill University, Montreal, September 12 ——William Krusen has returned from Europe

Health Report—Typhoid fever still prevails throughout the city, but the number of cases reported for the week was lessened The death rate from the disease, however, is slightly higher There were 100 cases of typhoid, with 14 deaths, reported for the week, as compared with 104 cases, and 10 deaths, for the preceding seven days This city has more typhoid fever than any of the other large American cities There were 400 deaths reported for the week ended September 10, as compared with 371 for the previous week, and 370 for the corresponding period of last year, and 379 for the corresponding week of 1902

August Hospital Work—During August there were admitted to the wards of the Pennsylvania Hospital 342 patients and 2,730 emergency cases were treated in the receiving wards There were 5,018 cases treated in the out patient department, and the total visits made to the out patient department numbered 7,506'——In the Germantown Hospital 121 patients were admitted, and 1,529 patients were treated in the dispensary ——The Methodist Hospital admitted 69 patients to the wards and 830 patients in the different dispensaries The total visits made to the dispensary numbered 3,184——In the Women's Hospital 1,549 patients were treated in the different clinics——There were 184 patients admitted to the wards of St Agnes' Hospital, and 696 new cases and 2,582 old cases were treated in the various dispensaries——In St Mary's Hospital 171 patients were admitted and 3,054 patients were treated in the dispensary

GENERAL

Beri-Beri.—According to a newspaper report, the bark *Foo Sucy* from Honolulu, which arrived at Delaware breakwater recently, was found to have several cases of beri beri on board One man died at sea from the disease The vessel was quarantined

Medical Missionaries Wanted—Mrs B F Witt, Dayton, Ohio, secretary of the Woman's Missionary Association, asks us to call attention to the fact that the above association is in need of medical missionaries for Canton, South China Either man or woman, married or single, will be accepted if found satisfactory A woman physician is also needed for Jubbulpore, Central India The position is under the auspices of the Methodist Episcopal Woman's Foreign Missionary Society Further particulars can be obtained by communicating with Miss Nettie M Hyde, Clifton Springs, N Y

Professor Orth.—Dr Johannes Orth arrived in New York, September 5 en route to St Louis He is to be entertained at the White House by the President, September 27, and a dinner will be given him, probably in New York by his former pupils about October 3 Dr Orth is professor of general pathology and pathologic anatomy at Berlin, and is also dean of Berlin University He was formerly assistant to Rindfleisch and later to Virchow, until called to be professor of general pathology at Göttingen in 1878 He succeeded to Virchow's chair in Berlin and also to the editorship of *Virchow's Archiv*

The Weightman Fortune—The *Medical News*, in referring to the death of William Weightman, head of the firm of Powers & Weightman drug manufacturers of Philadelphia has revived the story of how the greater part of the immense fortune of the firm was derived from the sale of quinin during the Civil War At that time, the only two firms in the country making quinin from Peruvian bark were Powers & Weightman and Rosengarten & Sons, both of Philadelphia The regular price of the drug at the beginning of the war was $2 10 an ounce, and south of Mason & Dixon's line it was often sold as high as $15 00 an ounce but the Philadelphia firms, although having a monopoly of the drug, never sold it for exorbitant prices They made money rapidly, although the government purchased great quantities abroad

Another State Society Journal.—One of the most encouraging signs in the way of organization of the profession is the doing away with the old transactions, which came out once a year, and in the majority of instances were not even opened, and the substitution therefore of the monthly journal Among the latter we welcome the *Journal of the Medical Society of New Jersey*, No 1, of Vol 1, having just been received It has adopted as its title page one similar to that of the *Journal of the Michigan State Medical Society*, which in turn copied the general style of The Journal of the American Medical Association The first issue of the New Jersey Journal is a very creditable one, and promises to be of much value to the profession of the state The editor is Dr Richard C Newton of Montclair There are now thirteen state societies that are journalizing their transactions, namely Arkansas, California, Colorado, Illinois, Kansas, Kentucky, Michigan, Mississippi, Missouri, New Jersey, New York, Pennsylvania, and Wisconsin

CANADA

The Canadian Medical Protective Association held its annual meeting in Vancouver, B C, August 24 Dr Robert W Powell, Ottawa, was re elected president and Dr James A Grant, Jr, Ottawa, was elected secretary treasurer

Toronto General Hospital.—There were 220 patients in the wards on July 31, and 211, not including infants, on August 31 During the month 250 were admitted, 243 discharged and 16 died. During the month 247 accident cases received first aid at the emergency branch of the hospital

The British Columbia Medical Association held a business meeting at Vancouver, August 24, and elected the following officers for the ensuing year President, Dr W D Brydone Jack, Vancouver, vice president, Dr Edward C Hart, Victoria, secretary, Dr H E Langis, Vancouver, and treasurer Dr J S Helmcken, Victoria It was decided to hold the next meeting in Vancouver

Montreal Vital Statistics of 1903—The vital statistician's report for 1903 shows an increase in the birth, marriage and death rates The death rate increased from 22 58 per 1,000 in 1902 to 24 29 The birth rate increased from 35 65 to 36 08 per 1,000, while the marriage rate increased from 9 22 to 10 16 per 1,000 The increase in the two latter rates may be due to the fact that sermons were preached in the Roman Catholic and other churches about two years ago against the falling off in the birth and marriage rates

Vaccination in Montreal—From August 15 until September 3 the vaccination bureau in Montreal was kept open daily to provide for the vaccination of all unvaccinated children who are to attend the schools during the coming terms This was in accordance with the recent by law adopted by the Montreal City Council, which reads as follows "No parent or guardian, no commissioner, trustee or other person shall allow any pupil under his guardianship or control to frequent any school, college, convent, university or any other educational institution in Montreal, unless such pupil shall be provided with a certificate of effective vaccination"

Medical Inspection of City Schools in the Province of Quebec.—The provincial Board of Health of Quebec met recently in Montreal and discussed the high death rate among young children in that city The board approved of the institutions established in Montreal to give advice regarding the care and feeding of babies, and believed that they would be a great assistance in spreading a knowledge of infant hygiene The board will have prepared small booklets for instruction of mothers on the care of new born children Regarding the question of pure milk, the board adopted a resolution asking that municipal health departments make a chemical and bacteriologic examination of milk supplies from time to time, especially in the summer months The board also gave its entire approval to the medical inspection of schools, and will ask the Legislature of Quebec to enact a law which will permit municipal authorities or school commissioners to make a complete inspection, as approved by the congress of the Association of French speaking Physicians A resolution will shortly be adopted to prohibit expectorating on sidewalks

Canadian Medical Association—The thirty seventh annual meeting of the Canadian Medical Association was held at Vancouver, B C, August 23 26, and proved one of the most successful and largest meetings in the history of the organization, there being registered 266 physicians The address in surgery was delivered by Dr Mavo Robson, and was accompanied by a lantern demonstration, that in medicine was delivered by Dr Robert E McKechnie, Vancouver, and that in gynecology by Dr E C Dudley, Chicago, and this was also accompanied by a lantern demonstration The election of officers resulted as follows President, Dr John Stewart, Halifax, N S, vice presidents, Drs Peter MacLaren, Montague Bridge, P F I, Judson B Black, Windsor, N S, Alfred B Atherton Fredericton, N B, Joseph E Dube, Montreal, Harry Meek, London Ont, W S England Winnipeg, Man, Henry C Wilson, Edmonton, N W T and Richard E Walker, New Westminster, B C, local secretaries, Drs Henry D Johnson, Charlottetown, P E I, Guy C Jones, Halifax N S, Thomas D Walker, St John, N B, John D Cameron, Montreal, Alexander Stewart, Palmerston Ont, Samuel W Hewetson, Pincher Creek, N W T Popham, Winnipeg, and

Alexander S Monro, Vancouver, B C, and executive council, Drs George M Campbell, James Ross and C Dickie Murray, all of Halifax, where the 1905 meeting will be held Dr George Elliott, Toronto, was re elected general secretary and Dr H Beaumont Small, Ottawa, treasurer In 1906 it is expected that a conjoint meeting of the Canadian and the British Medical associations will be held in Toronto

FOREIGN

Pensions for Physicians Victims of Epidemics—One of the edicts enacted by the Czar since the birth of his son is one to the effect that the families of physicians are entitled to a pension when the physician succumbed to infection acquired while in the public service fighting an epidemic

Enterprise in Medical Society Work—The physicians and surgeons now stationed or voluntarily serving at Harbin have organized what they call the "Temporary Medical Association in the Far East" At the first meeting, held in August, 96 physicians were present Dr Tolmatschew from Moscow is the president

Russian Physicians at the Front—The Russian Red Cross has appealed for a list of physicians volunteering to serve at the front to take the place of the physicians and medical students worn out or sick from their service with the Red Cross in the field Dr Böttcher has typhoid fever, and Dr Hildebrand had his foot crushed and was the first patient to be treated in the hospital in his charge

Waldeck Rousseau and the German Surgeon.—Considerable surprise has been expressed that Kehr should have been summoned from Germany to operate on Waldeck Rousseau who did not survive the day The facts of the case are that Professors Poirier and Terrier of Paris had performed an operation for biliary obstruction a mon h or so before discovering then indications of inoperable malignant disease in the pancreas The patient's condition was very much improved by the intervention, but the family were warned that the improvement could be only temporary When the threatening symptoms recurred the French surgeons refused further interference, and as a last resource Mayo Robson and Kehr were summoned Kehr performed a laparotomy, and found abla ion of the tumor impossible, although he was able to conclude with drainage of the hepaticus The patient did not regain consciousness, and died in a few hours The French now criticise Kehr for even attempting the operation under the circumstances

Law in Regard to Prescriptions in Brazil.—A new sanitary law for Brazil is under discussion The medical society of S Paulo suggests that every pharmacist shall be supplied with a list of regis ered physicians and that they should be compelled to refuse to dispense prescriptions signed by any one else It is recommended that the original prescription shall not be dispensed again after a year has elapsed from the date of writing No prescription can be dispensed a second time without an order from the physician who wrote it Medicolegal testimony experts should be selected exclusively from the list of registered physicians. B Rodrigues advocated that the government should purchase large supplies of the disinfectants needed in the prophylaxis of epidemics and keep them on hand ready for emergencies When needed they should be sold to consumers at cost At present the prices soar as soon as an epidemic is declared, placing them beyond the reach of the majority The expense to the state would be compensated by the benefits resulting Every cent spent in hygiene is an economy he added. He also added that the public authorities should set the example of abolishing dry sweeping in all the public buildings and avoidance of dust by wiping furniture etc with cloths moistened with antiseptics Example would be worth a thousand precepts

Gloves, Etc., in Field Surgery—Dr Hohlbeck writes from the seat of war that the Russian surgeons are adopting Zoege von Manteuffel's advice to use gloves in field surgery They find them very convenient for applying dressings in severe cases and for operations of all kinds, carrying a supply constantly with them, each pair sterilized in a separate bag He mentions the great benefit derived from Senn's adhesive plaster fastenings for dressings This with the smallness of the wounds made by the bullets, reduces the amount of dressings to the minimum, so that one small package will serve for an astonishing number of wounded The means of transporting the wounded, according to Hohlbeck, are deplorable, the native carts are so clumsy and too short to lie down in The carts supplied by the Red Cross are fine. They are such as are used in Finland and have proved so useful that a large consignment has been ordered The penetrating dust and the millions of flies are the chief enemies of the surgeon The wounds made by the shrapnel balls are the most serious Each bomb contains about 200 balls, and the injuries made by them have all the disadvantages of the old lead bullets The other bombs are much less dangerous They explode with such force that they fly into such small pieces that the damage inflicted is comparatively slight The wounds made by the Japanese bullets are less serious than those of the Lee Metford or Mauser bullets as he observed them in the Boer war They can even pass through the shaft of a bone without solution of continuity Dr Hohlbeck's letters are being published in the *St Petersburger med Wochft*

The Father of Anatomy—Vesalius has been regarded as the father of scientific anatomy, his work "Fabrica," dating from 1543, being styled the first treatise on the subject conceived in a scientific spirit A year or so ago Jackschath arose in Austria and proclaimed that Vesalius had been preceded in this line by Leonardo da Vinci, who, fully fifty years before him, had composed a treatise on anatomy which has since been lost Nothing of this treatise has come down to us except a few students' notes and plates They show, however, that to da Vinci (1452 1519) unmistakably belongs the title of the father of anatomy They also show further, he states, that Vesalius' work is merely a compilation of da Vinci's treatise and that his appropriation of it and publication of it over his own name is the most stupendous example of plagiarism the world has ever known A French edition of what remains of da Vinci's work was published three years ago, and the mistakes made by the author are the same mistakes as are found later in Vesalius' work In a recent number of the *Munchener medicinische Wochenschrift* No 18, G Klein reviews the history of the subject Although he does not think that Jackschrath has quite proved his case in regard to Vesalius' plagiarism, yet late researches have certainly established that to da Vinci and not to Vesalius belongs the title of father of anatomy

Koch and His Critics.—When Koch was presen ed with the *Festschrift* in honor of his sixtieth birthday, and the portrait bust was unveiled, he expressed great appreciation of the homage, especially of i s timeliness He remarked "The good old days of bacteriology are past, when a few investigators had the field to themselves and could work in peace along their various lines Now their name is legion, and every one of them is striving to win some small modicum of success No one has a free field to himself any longer, and even with the most cautious limitation of one's field of work one finds that he is encroaching on another's domain, or stepping on still another's toes, or jostling some one in some way Before the scientist knows it, he has made a host of enemies on all sides This is naturally very unpleasant and robs one of all peace and joy in one's work" Koch continued with the statement that he had been particularly unfortunate in this respect, whatever he writes or says raises a storm of passionate contradiction It generally comes from those who understand little or no hing of the matter in hand and are the least qualified to pass judgment on it He has frequently been tempted to abandon the whole thing and have nothing more to do with science This homage offered to him on his sixtieth birthday showing such a large and loyal band of co workers, is an inspiration to keep on working, and he terminated with the promise to continue to devote his energies in the future as in the past to work with and for these loyal friends, to promote the cause of science by every means in his power Von Behring was at one time a pupil of Koch, and his absence from the celebration excited some comment

Wounds from the Japanese Firearms.—The Japanese bullets used at the battle of Vafangou were an inch and a quarter long and a quarter of an inch in diameter A detailed report from one of the Russian surgeons of his work after the battle states (in the *Russki Vratch*, iii, No 30 July 24 1904) that these bullets passed through bone and tissue without shattering them, merely making a tunnel the size of the bullet His hospital was located at Tielen more than 200 miles from the battlefield, and the 150 wounded men arrived by train, all but a few having walked from the scene of action to the nearest railroad station, a distance of 20 to 30 versts (nearly 14 to 20 miles) All arrived the second day after the battle in satisfactory condition, none thinking that his wounds were serious al hough in some of them the bullets had traversed vital regions Only 5 required operative intervention in 4 the bullet was extracted under cocain, one was a shrapnel ball In another case crushed fingers were amputated Treatment was limited to thoroughly cleansing the wound and putting it in the best condition for natural repair Four cases are described in which the bullet passed through the thorax In one the bullet entered below the right seventh rib and emerged in the ninth interspace The man was standing about 500 paces from his assailant He did not fall, but hastened on foot to the railroad station, more than 13 miles away There was no hemorrhage, and merely slight difficulty in breathing Slight fever was observed for three days after arrival, but by the eleventh day all the symptoms had vanished except that the breathing in the lower lobe of the right lung was not so strong as in the other lung The patient felt quite well Another was hit at about 800 paces, the bullet emerging in the tenth interspace He experienced merely a slight difficulty in breathing and repaired to the station on foot, finding that an attempt to ride in a wagon made him feel worse The lung action was apparently normal, there was no fever, and the patient felt perfectly well by the end of the second week There was some suppuration of wounds of the abdomen or mouth, but healing proceeded rapidly The surgeon in question, J B Zeldovitch, comments on the courageous bearing and good humor of the wounded, their expressions of admiration for the valor of the foe and the lack of revengeful feelings

Correspondence.

Physicians in the Public Life of France

PROFESSOR POZZI—COMBES A PHYSICIAN—COMPOSITION OF THE FRENCH SENATE—THE CHAMBER OF DEPUTIES—PHYSICIANS IN MINOR CIVIL OFFICES—SCIENTIFIC RECORDS, PROFESSIONAL AND PERSONAL STANDING OF PHYSICIANS IN PUBLIC LIFE—SOME NEGLECTED BUT PRESSING DUTIES OF AMERICAN PHYSICIANS

PARIS, Aug 27, 1904

To the Members of the Medical Profession —The active participation of the medical profession in public affairs in France is in striking contrast with the aloofness of American physicians from executive and legislative offices This was brought to my attention by Professor Pozzi, with whom it was my good fortune to cross the ocean on his return from the meeting of the American Surgical Association at St Louis He himself is an example of the highest type of the medical man, using the term in its broad generic sense A successful practitioner, the author of an accepted text book of gynecology which has been translated into all the European languages, a litterateur and scientist in a broader sense, having been the translator of Darwin into French, a member of the Academy of Medicine, a popular professor in the Ecole de Médicine, an officer of the Legion of Honor, an active participant in the Franco Prussian war, he has held several minor civil offices and, lastly, has had one term as a senator of France Yet he is only in the prime of manhood! His example, it is hoped, will be as generally emulated in America as it is imitated, consciously or otherwise, in France When I told him that there were but two physicians in the United States Senate and none in our House of Representatives of the United States he was greatly surprised

Why!" he exclaimed, "in France medical men are not infrequently the controlling factors in both the Senate and Chamber of Deputies! Out of the more than 600 members in both branches it is not unusual to have from 100 to 125 representatives of our profession"

"What about their politics?" I asked

"They are chiefly Republicans, most of them belonging to the 'Republican Radical' branch of the party, only a few are classified as 'Republicans' and 'Moderate Republicans,' while it is still more rare for a physician to belong to the 'Right' or Clerical party"

"Are the medical representatives co operative on professional and scientific questions without reference to party lines?'

Yes Always and effectively"

'Do medical men frequently hold local political office?'

Yes they are frequently members of the general counsels of the various departments and mayors of cities In this connection I might mention Lyons, Bordeaux, Nancy, Rheims and other important cities"

Dr Pozzi kindly put me in the way of ascertaining the facts relating to the senate, of which he was once a member The body consists of 300 members, of whom 40 are medical men! Think what might be accomplished in the way of needed and wholesome legislation in the United States if our medical profession were only represented in similar proportion in the two branches of Congress!

I am convinced that the medical profession in the United States is too largely actuated by the idea that participation in political affairs will be accepted as an evidence of corresponding inefficiency in professional attainments The people, too, seem to hold the view that if a man is of any account as a physician he can be of no account as a politician and *vice versa* These ideas or prejudices, provincial as they are, have without doubt exercised a repressive influence on physicians in general in the exercise of their citizenship It is of some interest, therefore, to study the facts in a country in which examples are sufficiently numerous to be instructive No country can be more to the point than France, and no body in France can be more illustrative than the Senate, concerning the members of whom I have been fortunate enough to secure the data

Take for example Combes whose actions and utterances are commanding more attention than those of President Loubet himself It is the same Combes who, as the successful instigator of the crusade of the republic against the religious orders which he has expelled from France, has accomplished, in a peaceful way, results as great as were the reforms embraced in the Revolution of 1793 and again in that of 1849 His moral courage is as heroic as any that was ever more dramatically displayed on the field of battle by a general of France This man has served as a member of the general council of his department that of Charente Inférieure, was once mayor of Pons, was elected senator in 1885, and again in 1894, was vice president of the Senate, served as a minister of public instruction in 1895 96, was re elected senator last year, and is now minister of the interior and president of the council of state This man is not only a philosopher and historiographer of distinction and the author of a psychologic work, but he is a doctor of medicine, having begun his life as an active member of that profession

The special question at issue is Do physicians who figure prominently in the politics of France amount to anything in a professional way? I have already cited Pozzi and Combes Let us look up some who are not so distinctly world men—men who are known only, or at least chiefly, in France, and information concerning whom will, therefore, be more in the nature of news Take, for instance, Gauthier, senator from Aude He is laureate of the Faculty of Medicine, received distinctions for his service in the cholera epidemic of 1885, made important investigations in the chemistry of iron and, so I am advised, enjoys as a physician the unlimited confidence of the people of Sijean, where he lives Peyrot, senator from Dordogne, is the author of numerous contributions on surgery and is a leading surgeon in that part of France Saillard, senator from Doubs is the professor of surgery at Besançon, while his colleague Borne, from the same department, is known throughout France by his writings on pleurisy and the neuralgias Campaian, from the Haute Garonne, is an accepted authority on the thermal waters of France Perreal, from Hérault, received a medal from the government for his work in cholera epidemics and for his contributions on the subject Parisot, from Vosges, received formal distinctions for his labors in the propagation of vaccine, and many others

The personal standing of these men in their respective communities is still another question of interest and one which can be answered only inferentially, at least, by the record Thus, for example, one would infer that a man like Perreal, senator from Hérault, is a man of local force and esteem when it is recalled that he was born in 1825, that he has served as a member of his general council has been mayor of his city for ten years, has been identified with the medical school at

Grenoble was a victim of the historic second of December joined the insurrection against the empire, served as an officer of public instruction, and finally, in 1897, when 72 years of age, was elected to the Senate, of which he is still an active member Campuan, from the Haute-Garonne, is another He was born in 1832, like his colleague, opposed the empire, was the efficient inspector of thermal waters, one of the largest interests in France, busied himself with his farms, of several of which he is the successful manager and proprietor, after twenty three years of strictly professional work he in 1879 went to the Senate, where he has since seen constant service as a Republican These are certainly inferential evidences of high local esteem for a man with such a record as this

It was my good fortune the other day to visit the beautiful little city of Annecy, the capital of the department of the Haute Savoie, which is represented in the Senate by Dr Francoz He is a native Savoyard, who began his professional career in his beloved mountain country and who chose to serve his people still further by serving as a general councillor, having acted as president of that important body, then is acting mayor of Annecy He became an officer of the Academy —a distinction which carries the laurel with it in France and went to the front against the Germans He was not at home when I called, a circumstance which gave me additional excuse for making inquiries concerning him

"Dr Francoz has been senator for some time?" I inquired of an advocate whom I had the good fortune to meet.

Ah yes for about ten years"

"He has been an efficient senator?"

'That is shown by the fact that he has been once re elected and that he has served as secretary of the senate"

'He must be highly esteemed personally and professionally by his neighbors" I ventured

'Ah yes, monsieur, he is the first citizen of Haute Savoie—the premier physician, too Even his political enemies admire him There are many who deplore his absence in Paris but it can t be helped he is needed in the Senate!"

The physicians in public life in France are esteemed members of their respective communities

I have not had time to look up the facts relative to the Chamber of Deputies, but I am advised that they are not essentially different from those which I have presented in regard to the Senate. Be this as it may however we must recognize that the medical profession of France is setting an excellent example to that of the United States relative to the recognition and discharge of the broad duties of citizenship I am sure, however that with the facts brought home to them the physicians of America will be more in evidence than heretofore in state legislatures and in Congress We have a distinct duty to perform in that regard There are already a number of candidacies for Congress by medical men in different parts of the country It is highly important where party interests are not distinctly paramount, to see that such candidacies are made successful Over and above this, however it is important that the medical profession right now both through its organized local bodies and by direct personal interrogation should demand of all candidates for elective office an explicit statement of their views touching specific questions of interest to the medical profession and to the public health Wherever practicable a committee should be appointed to report on the previous records of candidates touching such questions for records made are safer criteria than promises given on the eve of election Careful consideration should be given to such reports and medical men should govern themselves accordingly remembering always that they are 150 000 in round numbers and that they can exert a powerful influence if they will but do so, by quietly and confidentially advising their friends and patrons on political questions or, if they prefer by going openly on the hustings CHARLES A L REED

Light for Eye Work Etc.

CHICAGO Sept 8 1904

To the Editor —An ideal light for eye ear nose and throat work is made by dipping a suitably sized segment of the frosted portion (sand blast formation) of a 24 candle power spiral electric lamp in hydrofluoric acid After dipping it in the acid for a few seconds, wash it off in water, dry and test its translucency Each application of the acid eats the rough points of glass, leaving it thinner, smoother and more nearly transparent Continue this until light of desired intensity is obtained, yet stopping short of the point where the reflection of the coil can be produced by a forehead mirror held at its focal distance from a smooth surface as well as from the lamp A uniform and intense white light is obtained

I have suggested to a bulb maker that where an asbestos chimney is needed a plain bulb small enough to be placed in the chimney could be used and fitted with the same shaped spiral coil of equal candle power Then a glass disc treated as above may be placed in the fenestrum of the chimney

EDWIN S ANTISDALE, M D

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer s name and address but the request of the writer not to publish his name will be faithfully observed

AIDING AND ABETTING QUACK INSTITUTIONS

A censor of a county society writes us in regard to a case in which a member of his society has been proven guilty of consulting with and aiding professionally those who are conducting an advertising so-called medical institute ' those connected with it being of unsavory reputation and not recognized professionally in any way After enlarging on the case our correspondent asks

In view of the large number of well known advertising medical institutions in many of our cities and the not uncommon condition of otherwise reputable physicians having professional and business relations with them it should be understood whether such physicians can aid and associate with such institutions and at the same time be recognized and be retained as members of a county society

ANSWER.—In some parts of the country it is not unusual that some otherwise reputable physician acts directly or more often indirectly as consultant to one of the too many so-called medical institutes etc that are conducted by quacks The physicians who do this certainly do far greater and more real damage to our profession than those who consult habitually with homeopaths eclectics etc who are personally honorable The pressure of necessity in a crowded profession renders many of us keen for financial returns, and the substantial inducement of the quack under secret arrangement at times proves to be a too great temptation Those who yield should not expect to retain professional position and fellowship for this conduct is decidedly ' unprofessional in that it gives comfort and support to the worst of quacks The damage to the profession is great. for the patient referred by the institute to a specialist is bound to conclude that the profession countenances quietly the quack whom it openly condemns and there is nothing to keep the patient from spreading the knowledge thus gained The harm that results to professional prestige is inestimably grave not considering the patient s side of the question Under the new organization, each county medical society is fully endowed with authority to stamp out such practice if unfortunately any of its members succumb to the temptation No explicit reference to this particular dereliction in professional duty is made in the Principles of Ethics but the spirit of the medical profession is decidedly against the recognition of such practice as regular It is unnecessary to enact new legislation to stamp out this evil in the few places where it exists Every county society will deem it unprofessional conduct and can be depended on to discipline the member who is found guilty

THE COUNTY SOCIETY SHOULD DECIDE ETHICAL QUESTIONS

A censor of a County Medical Society in Oklahoma asks Can a member of a county medical society—branch of the American Medical Association—consult with and otherwise professionally recognize, a non member one who has often supplanted physicians where he has been called in consultation?

ANSWER.—Such a question to-day is made almost purely local by the reorganization of medical societies that has been progressing since 1901 and that is now nearly completed The county medical society in the new scheme of organization has full authority to determine its own course in questions ethical Already this has led to considerable differences between the customs of different county societies This seeming irregularity of custom on the whole is a result of the adoption of a mode of real organization and of a non penal Principles of Ethics Local professional customs necessarily differ e g as between Chicago and a sparsely settled county in Maine or as between San Francisco and a back county in Arkan sus The chief good however, is in the making of the county society the autonomous unit of medical organization with full power to decide its own ethical course and to penalize members whose conduct departs therefrom

Therefore, we would advise our correspondent that his own society should determine what course its members should pursue in this particular circumstance No one is so familiar with the conditions and with the needs of the case as those who are practicing on the spot Of course, their decision should be guided by the spirit of the Principles of Ethics If the erring physician could be brought to see and to abandon the error of his way and to come within the fold of medical organization a double benefit will ensue, a new recruit will be enrolled and a disturber of the peace suppressed This is by far the best method If for any reason it can not be followed, or if it meets with failure, there is no one in such advantageous position to decide on the best further course than the members of the county society If it deems it wise the society can adopt a rule threatening suspension from membership to those who consult with the offender We would not advise such a course and mention it only to illustrate the functions and authority of the county medical society Some other less drastic course should be found effective

RIGHT TO PRACTICE IN IRELAND

MINNEAPOLIS MINN, Sept 9 1904

To the Editor —1 What are the requirements of an American physician who is a graduate of a regular recognized American college to practice medicine in Ireland?

2 Can one enter the regular course of the Dublin Trinity College of Medicine or the other schools, on presentation of credits received from an American college without examination and then graduate? If so, what other school s credentials are recognized?

J W M

ANSWER —1 The right to practice medicine in Ireland is obtained only by those who have passed the examinations of one of the various licensing boards or who have obtained the M D degree from a recognized university of Great Britain or Ireland There are several licenses recognized among which may be mentioned the Royal College of Physicians of London, the Royal College of Surgeons of England Society of Apothecaries of London Royal College of Physicians of Edinburgh Royal College of Surgeons of Edinburgh Royal College of Physicians of Ireland Royal College of Surgeons of Ireland and Apothecaries Hall of Ireland These vary slightly in their requirements Some of these licensing bodies recognize certain degrees in this country The University of Dublin grants the degree of M B and M D and also B Ch and M Ch (Bachelor and Master in Surgery respectively) A candidate for any one of these degrees must be a graduate in arts 2 No unless one has also a recognized degree in arts

A MEDICOLEGAL QUESTION

———, NEB, Sept 3, 1904

To the Editor —Three years ago I was called to see a married woman suffering from an abortion The husband refused to pay and I brought action During the trial the attorney asked me who called me to the case I could not remember I won in the lower court, but it now goes to the higher court Will I have to know definitely who called me to see the woman, and if I can not tell, will I lose the case?

F P D

ANSWER —It would hardly seem that the case against the husband could be lost on the mere failure to remember who called you to attend his wife unless there were exceptional circumstances to render that a vital point The Supreme Court of Nebraska has held in the case of Spaun vs Mercer S Neb 357 that for medical services bestowed on the husband himself, or on his wife and children by whomsoever the attendance of the physician may have been requested, the husband and not the wife is ordinarily liable Especially is this so where the credit was in the first instance given to the husband and where there was no special agreement on the part of the wife to bind her separate estate

SWALLOWED A LARGE STAPLE

DR WADE SPERRY, Hamburg Iowa, writes Referring to Dr Stratton s case on page 558 of THE JOURNAL August 20 I had a similar case A boy 1½ years old swallowed a new fence staple an hour before he was brought to my office As he showed no bad symptoms I had my doubts about it However, I prescribed as many ripe bananas as he could eat He ate three afterward he was given a tablespoonful of castor oil The next morning, 12 hours later, he passed the staple It was a new one, with very sharp points No bad symptoms afterward

PROFESSIONAL CARDS IN LOCAL NEWSPAPERS

——— MONT, Sept 1 1904

To the Editor —Does the best sentiment of the profession permit a physician to follow the custom of his town in regard to a card in the newspaper?

I am a newcomer in a small country place and find the card (with name, the legend 'Physician and Surgeon' and address of office) of each of my fellow physicians in the weekly country paper

I P R

ANSWER —Yes Under just the circumstances mentioned, professional custom has sanctioned the publication in local papers of a card containing no more information than that specified by our correspondent

Marriages.

WALTER STIX, M.D, to Miss Edith Fechheimer, both of Cincinnati

OSCAR EDWARD FISCHER, M D, to Miss Irma Hadzsits, both of Detroit, September 1

F BRUCE COCHRAN, M D, Milan, Mo, to Miss Mary Simmons, at Lake, Ind, August 31

INMAN W COOPER, M D, to Miss Hortense Crutcher, both of Newton, Miss, September 7

AUGUSTUS A ESHNER, M D, to Miss Julia Friedberger, both of Philadelphia, September 7

CLAUDE F SH ONTS, M D, Hospital, Ill, to Miss Jeannette Foster, at Chicago, September 14

BENJAMIN H SHERMAN, M D, Dexter, Iowa, to Miss Jessie Loar of Monroe, Iowa, September 1

GRANT A REBER, M.D, Fentress, I T, to Miss Estelle Blake of Salina, Kan, September 14

H WINNETT ORR, M D, Lincoln, Neb, to Miss Grace Douglas of Grinnell, Iowa, September 7

ALBERTUS A MOORE, JR, M D, New York City, to Miss Agnes Remsen Vrendenburg of Freehold, N J

JOHN G YOUNG, M D, to Miss Mae Wells, both of Hickory Grove, Ill, at Keokuk, Iowa, August 31

RUSSELL A HIBBS, M D, New York City, to Miss Madeline Cutting of Pittsfield, Mass, September 1

WORCESTER A BRYAN, M D, Nashville, Tenn, to Miss Emma Berry, at Hazelpath, Tenn, September 14

STEPHEN TYLER PARSONS, M D, Aplington, Iowa, to Miss Rachel Hutchison of Chicago, September 6

WILLIAM GRAY ALLEN, M.D, Chicago, to Miss Amelia Harrison Arundale, at Bradford, Ill, September 7

WILLIAM BROOKS LA FORCE, M D, Ottumwa, Iowa, to Miss Anna Carolina Bosquet of Pella, Iowa, August 31

OLIVER BIERNE PATTON, M D, Huntsville, Ala, to Miss Carlisle Dorothy Walker of Richmond, Ky, August 30

THEODORE DROSDOWITZ, M D, Chicago, to Miss Belle D Hurwitz of New York City, at St Louis, Mo, September 5

HARRY E CLEMSON, M.D, Port Deposit, Md, to Miss May Oakford of Philadelphia, at Washington, D C, August 25

ROBERT FRANCIS MORRISON, M D, Holyoke, Mass, to Miss Elizabeth Blanche Smith of Chicopee, Mass September 7

FLETCHER HODGES, M D, Indianapolis, Ind, to Miss Rebecca Trull Andrews of Manchester by the Sea, Mass, September 1

WILLIAM MUEHLBERG, M D, to Miss Edna Zinke, daughter of Dr E Gustave Zinke, both of Cincinnati, at Idaho Springs, Colo, September 7

WILLIAM CARY MABRY, M.D, acting assistant surgeon, U S Army, Fort Sheridan, Ill, to Miss Bessie Mayne of Salt Lake City, Utah, September 7

Deaths.

Augustus B Castle, M D Transylvania University Medical Department, Lexington, Ky, 1841, surgeon of the First Kentucky Volunteers in the Mexican War, thereafter a practitioner near Lexington, Ky, and Kansas City, Mo, chief surgeon of the military hospitals at Macon and Fayette, Mo, during the Civil War, who was obliged to retire from practice soon after the war on account of ill health, and lived on his plantation until 1898, when he moved to California, died at Los Angeles, July 29, aged 85

Albert G Miner, M D Jefferson Medical College, Philadelphia, 1873, a member of the American Medical Association, surgeon of the One Hundred and Seventy first Ohio Volunteer Infantry in the Civil War, and some time city councilman of Niles, Ohio, while driving across a grade crossing near his home in Warren, Ohio, August 31, was struck by an express train and instantly killed, aged 67 His wife, who was with him in the carriage, was also killed

George Newton Lantz, M D University of Louisville, 1890, president of the Linn County Medical Association, member of Grand River Medical Society, North Missouri Medical Society, and of the Medical Association of the State of Missouri, died at his home in Brookfield, Mo, September 2, from Bright's disease

James M Bowcock, M.D Jefferson Medical College, Philadelphia, 1856, died recently at his home in Clarksburg, W Va, after an illness of eighteen months, aged 75 The Harrison County Medical Society, at a special meeting, August 31, passed resolutions of regret

John L J Gormly, M.D Long Island College Hospital, Brooklyn, 1897, a member of the King's County Medical Society, and visiting surgeon to St Mary's Hospital, died at his home in Brooklyn, September 7

John H Shaper, M D University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1891, died at his home in Herkimer, N Y, September 3, from dysentery, after an illness of one week, aged 30

Orlando C Robinson, M.D Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, died at his home in Bethayres, Pa, August 4, from pulmonary tuberculosis, aged 44

Philip G Gary, M D University College of Medicine, Richmond, Va, 1900, of Wakeman, King William County, Va, died at the Newport News Hospital, from typhoid fever, September 7

William Hammett Martin, M D College of Physicians and Surgeons in the City of New York, died at his home in New York City *from cancer of the stomach*, September 3, aged 40

Charles Meyer, M.D Berlin University, Germany, 1848, a veteran of the Schleswig Holstein campaign, died at his home in Macungle, Pa, September 2, from apoplexy, aged 77

I. T Tichenor, M.D Kentucky School of Medicine, Louisville, 1854, died at his home in Stringtown, Nelson County, Ky, August 29, from gangrene, after a long illness, aged 72

Benjamin Parker Barstow, M D Massachusetts, 1892, of Kingston, Mass, died at the Channing Hospital, Providence, R I, from septicemia, August 25, aged 44

Leonard Henley, M.D Department of Medicine of the University of Pennsylvania, Philadelphia 1847, died at his home in Williamsburg, Va, August 5, aged 83

Byron Lemly, M D Medical College of Virginia, Richmond, 1865, died at his home in Jackson, Miss, August 29, from apoplexy, after an illness of several weeks

Joseph F Wheeler, M D St Louis Medical College, 1875, died at his home in Marshall, Mo, September 6, from Bright's disease, after a short illness, aged 60

William W D Parsons, M.D College of Physicians and Surgeons in the city of New York, 1852, died at his home in Auriesville, N Y, July 19, aged 72

John B Taylor, M.D University of Maryland School of Medicine, Baltimore, 1855, died at his home in Ivy Depot, Albemarle County, Va., September 2

John Robert Hamilton, M.D College of Physicians and Surgeons of Ontario, Toronto, 1872, died at his home in Clinton, Ont, July 12, aged 56

John Thomas Brosnan, M D Bellevue Hospital Medical College, New York City, 1893, died at his home in Brooklyn, September 9, aged 30

George S Limerick, M.D Bellevue Hospital Medical College, New York City, 1891, died at his home in Vicksburg, Miss, July 8, aged 40

Philip Eugene Craig, M D Baltimore Medical College, 1897, died at his home in Baltimore, September 10, from typhoid fever, aged 35

Harry M Adams, M.D St Louis College of Physicians and Surgeons, 1864, died in June from peritonitis at his home in Worden, Kan

Edward B Holt, M.D Harvard University Medical School, Boston, 1868, died at his home in Lowell, Mass, July 19 aged 49

William H. McRee, M D Medical College of Georgia, Augusta, 1859, died at his home in Stephens, Ga, August 30, aged 76

Henry E Parker, M D Illinois, 1878, died at his home in Lorain, Ohio, August 30, after an illness of two years, aged 52

J E Waters, M.D Illinois, 1877, died suddenly at his home in Athensville, Ill, July 30, aged 76

Edwin W Knepper, M D Indiana, 1897, died at his home in Ligonier, Ind, April 29, aged 70

David H Armstrong, M D, died at his home in Austin, Texas, September 3, aged 74

Adin Hubbard Newton, M D, died at his home in Everett, Mass, July 7, aged 87

H C Banner, M D, died at his home in Erwin, Tenn, August 31, aged 55

Seth C Archer, M.D Ohio, 1865, died recently at his home in Milan, Ohio

Deaths Abroad

Franz Riegel, M.D, the well known professor of clinical medicine at Giessen since 1879, died, August 26, aged 61 His name is familiar from his works on the heart action, the pulse, especially the venous pulse, heart "bigeminie," lead poisoning, acute nephritis, etc. His manual on gastric affections is now in its second edition The dominant idea with him in the consideration of pathologic conditions was always the disturbance *in the physiologic function Without detracting from the value* of pathologic anatomy, he regarded the pathologic function as indispensable to a knowledge of the affection in question His favorite fields of work were those in which the disturbed function was the chief element in the symptom complex His work was further distinguished by his indefatigable study of the subject in hand from every possible point of view The twenty fifth anniversary of his professorship was celebrated last May, when the *Münchener med Wochft* published a fine portrait of him

A. S Landerer, M D, professor of surgery and director of the Karl Olga Hospital at Stuttgart, died in Switzerland, August 21, aged 50 He has published many works on surgical and other subjects, but his name is best known, perhaps by his advocacy of cinnamic acid in the treatment of tuberculosis Since he introduced this method of therapeutics twenty years ago, he has unceasingly proclaimed its value basing his judgment on theoretic premises and clinical experience, but his views have not been generally accepted Two years ago he was appointed to be director of a large public hospital approaching completion in a Berlin suburb

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State Boards of Registration.

COMING EXAMINATIONS

Missouri State Board of Health September 19-21 St. Louis Secretary W F Morrow M D Kansas City Mo

Iowa State Board of Medical Examiners September 21 22 Capitol Building Des Moines Secretary J F Kennedy M D, Des Moines.

Territorial Medical Examining Board of Oklahoma, September 28 Guthrie Secretary F E Cowdrick M D Enid

New York State Medical Examining Board September 27 30 New York Albany Syracuse and Buffalo Secretary Charles F Wheelock Albany

Utah State Board of Medical Examiners October 3, Salt Lake City Secretary R W Fisher M D Salt Lake City

Arizona Board of Medical Examiners, October 3 Phoenix Secretary Ancil Martin M D Phœnix

Idaho State Board of Medical Examiners, Lewiston, October 4 Secretary R. L. Nourse Hailey

Montana Board of Medical Examiners, the Capitol Helena, October 4 Secretary Wm. C Riddell M D Helena

North Dakota State Examining Board Grand Forks, October 4 Secretary H M Wheeler M D Grand Forks.

Minnesota State Board of Medical Examiners State Capitol Building St. Paul October 4-6 Secretary, C J Ringnell M D Minneapolis

Vermont State Board of Medical Censors (Regular) Y M C A Building Burlington October 5 6 Secretary S W Hammond M D Rutland.

Rhode Island State Board of Health State House Providence October 6-7 Secretary Gardner T Swarts, M D Providence

Regular Board of Medical Examiners of Georgia Capitol Atlanta October 11 Secretary I H. Goss, M D Athens

State Medical Board of the Arkansas Medical Society Little Rock October 11 Secretary J P Runyan M D Little Rock

Kansas Medical Board, State House, Topeka, October 11 14 Secretary G F Johnston, M.D Lakin

Michigan State Board of Registration in Medicine, Lansing October 11 14 Secretary B D Harison M D Sault Ste. Marie

Illinois State Board of Health Great Northern Hotel Chicago October 12 14 Secretary J A Egan M D Springfield.

Board of Medical Supervisors of the District of Columbia, Washington D C, October 13 Secretary Wm. C Woodward M D Washington D C

Board of Medical Examiners for the State of Texas (Regular), Dallas October 18 Secretary M M Smith, M D, Austin

State Board of Medical Examiners of New Jersey, Trenton, Tuesday, Tuesday evening and Wednesday October 18 19 Secretary, E L B Godfrey, M D Camden

Louisiana State Board of Medical Examiners, New Orleans, October 21 22 Secretary, Felix A Larue, M D, New Orleans

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Wisconsin July Report—Dr Philip A Forsbeck, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Madison July 12 The number of subjects examined in was 18, total questions asked 120, percentage required to pass, 75, and not less than 60 in two subjects The total number examined was 68 of whom 59 passed, including 4 osteopaths and 9 were conditioned or failed, including 3 osteopaths The following colleges were represented

PASSED

College	Year Grad	Per Cent
American Medical Missionary College	(1903)	88
University of Colorado	(1903)	85
College of P and S New York City (1898) 80,	(1903)	82
University of Missouri	(1904)	79
Rush Medical College (1902) 84, 85, (1903) 93, 90 89, 81 90 88 (1904) 82 88, 90 85		
University of Minnesota (1901) 84 (1903) 82, (1904) 86, 87, 80 87		
Chicago Homeopathic Medical College	(1904) 83, 84,	78
College of P and S Chicago, (1901) 88 (1903) 83 (1904) 82, 83 76, 83 81 84 86 80		
Denver and Gross Coll of Med	(1903)	84
Northwestern University Med School (1903) 84, (1904) 87 84 83 85 87, 80 87		
Ohio Med University	(1904)	82
Queens Med Coll Kingston Ont	(1904)	84
Johns Hopkins Univ Med Dept	(1904)	86
Vanderbilt University	(1900)	83
Wisconsin Coll of P and S	(1904)	84, 85
University of Michigan	(1900)	82
University of Pennsylvania	(1902)	85
Trinity Medical College, Toronto (1904) 83	(1888)	82
CONDITIONED *		
Coll Homeo Med and Surg Univ of Minn	(1901)	80
Wisconsin College of P and S	(1904)	82
Johns Hopkins Univ Med Dept	(1904)	81
College of P and S Chicago	(1904)	80
Milwaukee Medical College	(1904)	74 83

One candidate was exempt and withdrew from the examination

*Below 60 in two studies

Association News.

REPORT OF THE SCIENTIFIC EXHIBIT

Of the American Medical Association, at Atlantic City, June 7-10, 1904

FRANK B WYNN, A M, M D, DIRECTOR
INDIANAPOLIS

Four years ago in Atlantic City the first scientific exhibit *of the Association* was auspiciously inaugurated It was perhaps, the most distinctive feature of that memorable meeting The practical benefits of the Scientific Exhibit have since been abundantly demonstrated In its evolution, experience soon proved the large heterogeneous collection expensive and difficult to demonstrate Reduction in size of the exhibit followed naturally with grouping of specimens to illuminate certain phases of pathology The next step was to correlate the work of the exhibit with that of the sections Topics chosen for illustration were those of live interest to the profession and prominently considered in the sections

Those having deeply at heart the best development of this feature of the association work, have striven long and earnestly for one all important end, viz, systematic demonstration of the exhibit by competent persons at stated hours indicated on the official program *Realization of this object was attained* at the past session On Wednesday and Thursday afternoons demonstrations of a practical nature were made in the exhibit hall by men of distinction The participants were William H Welch, W T Councilman, Harvey W Wiley, W M Late Coplin H A Christian, Edward H Nichols, C Y White, Winfield S Hall W B Cannon, W G Spiller, D J McCarthy, J E Greiwe W T Longcope I W Blackburn, F C Busch and others

The large attendance on these demonstrations and the close attention shown gave ample proof of their success In the future they should be arranged with reference to topics in the section programs A series of demonstrations might be arranged, for example which would be of particular interest to the internists, another series to the gynecologist, etc The respective sections might set aside certain hours of their published program for witnessing the demonstrations of interest in the exhibit hall

In point of artistic excellence the last exhibit easily surpassed any previously made It will be noted also that research work of recognized scientific and practical value was shown This is highly creditable and conducive to the scientific prestige of the organization Research exhibits are highly desirable, but should not constitute a dominant feature The prime object of the exhibit is educational It should appeal of course, to the investigator But it should never be forgotten that the American Medical Association is a democratic organization The exhibit should seek, therefore, also the instruction of the rank and file of the profession, in recent scientific knowledge of direct bearing on practical medicine A *specimen of hepatized lung or a contracted kidney may seem* very common and uninteresting to an expert pathologist, but to the observant practitioner they offer an instructive object lesson And surely a thorough knowledge of gross pathology offers the safest foundation for expert diagnosis And thus since the inauguration of the exhibit, practical dissemination of pathologic knowledge has been going on

A most beneficent influence of the Scientific Exhibit has been the stimulation of the collection of gross museum specimens in reputable medical colleges and their artistic preparation for teaching purposes Those who visited the first exhibit four years ago and the last one must have been impressed by the marked artistic improvement in the specimens shown The Scientific Exhibit therefore, has made no small contribution to medical education by arousing among colleges a wholesome rivalry in the exhibits shown

A beneficent influence of the exhibit has been to emphasize gross as distinguished from microscopic pathology The improvements of the microscope and the triumphs of bacteriology have led many teachers to neglect those things which may be studied with the unaided eye Few of the medical institutions of the country are thoroughly equipped with museum collections for teaching purposes A considerable number of creditable museum collections have grown up in the last four years directly as the result of the work of this Association

The membership of this organization includes an army of medical workers—generals, captains, experts and, most important of all, the common soldiers who bear the brunt of the battle against disease To all the Scientific Exhibit is a most helpful agency, capable of still greater usefulness Closer correlation of the work of the sections with that of the exhibit, complete illumination of a few live topics each year competent demonstrations by men of ability, fuller realization of the intimate relationship of the exhibit to the sections these things will make for the still greater efficiency of the exhibit

The many scientific workers who have labored so earnestly for the success of this exhibit have as their reward the satisfied consciousness of a duty well *performed and the enthusiastic* approbation of the profession The details of the respective exhibits are given below

BOSTON UNIVERSITY SCHOOL OF MEDICINE

W H WATTERS O R CHADWELL AND HENRY WATTERS

1 54 *Series of Appendices* mounted in special tubes illustrative of the catarrhal ulcerative obliterative and other types of appendical disease

55 100 These were miscellaneous specimens and included A lung series kidney series, lymph gland series series of carcinoma of breast showing erosion retraction of the nipple and metastasis

These were all Kaiserling preparations mounted in glycerin jelly Most of the mounts were in Petri dishes on ground glass plates, which gave an excellent background for the specimens Great credit is due this institution not only *for this* beautiful exhibit, but for a similar one made at the Saratoga session Dr Henry Watters was in charge of the collection

CINCINNATI HOSPITAL MUSEUM

J E GREIWE

HEART SERIES

101 *Acute Pericarditis*

102 *Tuberculosis of Pericardium* involving the entire cardiac surface and associated with marked hypertrophy of left ventricle

103. *Tuberculosis of Pericardium,* with extreme dilatation of the sac which contained five pints of blood stained fluid at *necropsy*

104 109 *Adherent Pericardium* —Of interest in these specimens was the constant association of hypertrophy and the frequency of aortic lesions

110 *Intramural Blood Clot* the size of a walnut situated in the apex and surrounded by a dense wall of connective tissue

111 *Secondary Sarcoma of Myocardium* —Primary trouble of the liver

112 *Concentric Hypertrophy* with diminution in size of left ventricle No valve lesions

113 *Acute Suppurative Myocarditis* secondary to septic pneumonia Thrombus of coronary and miliary abscesses throughout myocardium

114 *Degenerative Changes of Aortic and Mitral Leaflets* —Marked atheroma of the coronaries extreme bradycardia—pulse 28

115 *Unusual Acute Obstruction of Coronary* —The specimen was obtained from a lad of 12 who died suddenly The autopsy revealed an acute vegetating endocarditis The edge of one aortic valve became torn loose remaining attached at one end while on the free extremity were three small globular vegetations These small masses were found obstructing the coronary vessel

116-118 *Lesions of Aortic Valves and Aortic Ring*

119 *Vegetations of the Aortic Valves* with perforation of the septum ventriculorum

120 *Extreme Calcareous Infiltration of Aortic Valves*

121 *Aortic Stenosis* —*Cor Bovinum*

122 *Aneurism of Aorta. No Ventricular Hypertrophy*

123 *Aortic Regurgitation* —Hypertrophy and dilatation of left ventricle and secondary insufficiency of mitral valves

124 *Mitral Stenosis* —papillary muscles converted into thick fibrous bands

125 *Vegetations on Mitral Leaflets*

126 *Marked Stenosis of Mitral Orifice*

127 *Endocarditis Verrucosa* with infarcts in spleen kidney and brain

128. *Globular Vegetations* located below the aortic valves

129 *Combined Lesions of Aortic Mitral and Tricuspid Valves*

130 *Mitral Disease with Extreme Dilatation of Right Heart* —Great irregularity of pulse

131 133 *Mitral Regurgitation* —Great hypertrophy and dilatation of left heart and secondary insufficiency of tricuspid orifice.

This excellent heart series was demonstrated by Dr Greiwe and, taken with the beautiful kidney group exhibited at New Orleans a year ago, speaks well for the character of pathologic work being done at the Cincinnati Hospital This makes the fourth successive year in which this institution has been a contributor to the Scientific Exhibit, and has, therefore, played no small part in building up this feature of the Association work

HARVARD MEDICAL SCHOOL

(A) DEPARTMENT OF PATHOLOGY W T COUNCILMAN HENRY A CHRISTIAN AND EDWARD H NICHOLS

This very complete exhibit consisted chiefly of bromid enlargements of photomicrographs and paintings of gross lesions They showed an unusual degree of beauty and clearness of microscopic detail They were neatly framed and in the university are used for wall decoration as well as teaching

134-147 *Parasite of Smallpox*
148-155 *Lesions of Smallpox*
156-158 *Vaccinia.*
159 161 *Parasite of Scarlet Fever*
162-163 *Parasite of Aleppo Boil*
164-178. *Malarial Parasites*
179 190 *Cirrhosis of Liver*
191 206. *Lesions of Typhoid Fever*
207 224 *Lesions of Lymphatic System*
225-242 *Lesions of Diphtheria Membrane Lung and Kidney*
243-250 *Neuroglia Tissue from Subcoccygeal Glioma*
251 255 *Neuroglia Tissue in Dermoid Cysts*
256-258 *Bacteria.*
259 265 *Lesions Due to Bacteria.*
266-268. *Tubercle Bacilli (human) Grown on Different Media*
269-271 *Tubercle Bacilli (bovine) Grown on Different Media.*
272 283. *Lesions of Tuberculosis*
284 298. *Lesions of Chronic Non Tubercular Arthritis*
299 315 *Lesions of Chronic Non Tubercular Arthritis Paintings*

In addition to the above photomicrographic exhibit, lantern demonstrations were made covering much the same field by Drs Councilman, Christian and Nichols The large attendance on the occasion attested the great interest taken

(B) DEPARTMENT OF PHYSIOLOGY

W T PORTER AND W B CANNON

This exhibit consisted of apparatus for the advancement of laboratory teaching in physiology and allied sciences It was designed by Dr Porter and presented by Dr Cannon

316-320 Kymograph Inductorium and a Number of Other Pieces of Apparatus

These instruments, which have found extended use both here and abroad, were designed for the following ends

The making of physiologic apparatus distinguished by simplicity of design, sound workmanship and low cost is of high importance in the development of physiology The ordinary student of physiology is essentially a book man, while the professional physiologist is essentially a laboratory man Student and professor should go the same road, along which few steps can be taken without apparatus of precision Physiologic apparatus has heretofore been made on the "model" plan, each for itself, without regard to the number of "operations" required, and with little or no thought as to the subsequent maintenance of the apparatus in good condition A large laboratory class requires a great supply of apparatus One hundred and fifty men working in the physiologic laboratory every day during four months require more than 25,000 articles It is clear that the cost of such an equipment, made on the old lines, would be too great for any school The sound training of large classes in physiology depends absolutely on the invention of apparatus designed with reference, 1, to its "manufacture", 2, to its storage and issue, 3, to its maintenance in good condition

By "manufacture" is meant technically the making of a large number of "parts" for the same apparatus consecutively, by preference on special lathes and with special tools The number of steps or "operations" should be the fewest possible, as each operation must be repeated many times The labor of "setting" a turret lathe, which will make eight operations with eight different tools on the same piece of metal, is as great for one piece as for a thousand Astonishing economics may also be secured by the use of special automatic devices

Effective storage and issue also demand that the apparatus be compact and that important parts be protected so that they may not be injured when the apparatus is handled rapidly by persons of small experience Economic maintenance requires construction with special reference to durability and cleanliness

With all this the apparatus must be admirably exact, serving the student for the repetition of classical experiments, and satisfying the investigator for all the ordinary needs of research

The supply of apparatus of this type bears the same relation to the advance of physiology that the commissariat bears to the advance of an army

JEFFERSON MEDICAL COLLEGE

W M L COPLIN AND JOHN FUNKE.

This was the first time the Jefferson Medical College had contributed to the Scientific Exhibit Previous failure to participate was abundantly made amends for in the superb array of pathologic material presented on this occasion Professor Welch characterized it as the finest collection he had ever seen I desire formally to express my deep appreciation not only of this fine pathologic contribution, but of my great personal indebtedness to Professor Coplin for his assistance as a member of the committee in promoting and installing the Scientific Exhibit.

327 366 *Forty Typical Specimens Illustrating Renal Disease* —Including the various forms of nephritis and surgical lesions—hydronephrosis nephrolithiasis. pyonephrosis hypernephroma, congenital cystic disease etc. This series was formally demonstrated by Professor Coplin as part of the official program.

367 391 *Twenty-five Specimens Illustrating Diseases of the Lung* —Including various stages of croupous pneumonia. different phases of tuberculosis from acute miliary to chronic fibroid. These were exhibited in special jars designed by Professor Coplin

392-402 *Specimens Illustrating Problems in Comparative Pathology* —Permanently mounted in fluid. Including tumor from liver of horse, some lesions in lungs and other viscera of the lower animals

403-417 *A Series of Fifteen Embryos* mounted in gelatin under watch glasses They were intended more for demonstration of this method of exhibiting embryologic specimens than for the purpose of illustrating any special subject in embryology They were prepared by H F Radasch, demonstrator of histology in the Jefferson Medical College

418-482 *A Series of Sixty five Specimens* mounted by a new gelatin method intended to illustrate special methods in the final observation and orientation of material for teaching morbid anatomy and illustrating the following subjects (a) Typhoid Fever ulcers. (b) Intestinal Tuberculosis secondary ulcers (c) Brains, showing secondary tumors and various phases of meningitis. (d) Kidneys exhibiting typhoidal nephritis typhoidal pyelitis suppurative nephritis. chronic interstitial nephritis etc. (e) Lungs showing different stages of croupous pneumonia catarrhal pneumonia etc (f) Lungs showing metastatic sarcoma. (g) Lungs, showing various phases of tuberculosis (h) Arteries. showing arteriosclerosis thrombo arteritis etc (i) Glands from Hodgkin's disease (j) Stomach showing multiple erosions and another specimen of gastric ulcer loaned by Dr A. O J Kelly

JOHNS HOPKINS UNIVERSITY

WILLIAM H WELCH AND W G M'CALLUM

The Association is deeply indebted to the department of pathology of this institution for its loyal and liberal support of the Scientific Exhibit At every meeting since its inauguration the university has sent complete specimen groups, illustrative of some topic prominently considered in the sections A year ago fibroid tumors and amebic dysentery with its sequellæ were illustrated, this year arteriosclerosis Professor Welch demonstrated the latter series formally as part of the official program This added to the completeness of the symposium on the subject presented in the Section on Practice

483 *Dissecting Aneurism of Aorta*
484 *Traumatic Dissecting Aneurism*
485 *Atheroma and Aneurismal Dilatation of Aorta*
486 *Arteriosclerosis of Aorta with Calcification*
487 *Arteriosclerosis Atheromatous Ulceration and Calcification*
488 *Fresh Diffuse Arteriosclerosis of Aorta* Case of typhoid fever
489 *Arteriosclerosis, Calcification and Ulceration of Sclerotic Plaques*
490 *Arteriosclerosis* and occlusion of anterior descending coronary artery chronic fibrous myocarditis aneurismal dilatation of apex of left ventricle thrombus formation
491 *Arteriosclerosis of Aorta* Cardiac Hypertrophy
492 *Extreme Deforming Arteriosclerosis of Aorta*
493 *Localized Arteriosclerosis of Aorta*
494 *Arteriosclerosis* Chronic Mitral Endocarditis
495 *Fresh Disseminated Arteriosclerosis of Aorta*
496 *Arteriosclerosis of Aorta* with dilatation and thrombus formation
497 *Arteriosclerosis of Aorta*, thrombus formed on arteriosclerotic ulcer
498 *Extreme Arteriosclerosis of Aorta* with Calcification

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL

WINFIELD S HALL

This institution has contributed each year some new apparatus employed in research work in physiology This is highly creditable to the department and has been greatly appreciated in the Scientific Exhibit Professor Hall demonstrated the following apparatus as part of the official program An article fully descriptive of these will appear in a later issue of THE JOURNAL.

499 *Apparatus to Determine the Index of Refraction of Water or of Glass*
500 *Apparatus to Determine the Focal Distance of a Lens*
501 *To Map the Fields of Indirect Vision* for Form and Color

MEDICAL COLLEGE OF INDIANA, UNIVERSITY OF INDIANAPOLIS

FRANK B WYNN AND HELENE KNABE

1 RESEARCH GROUP

These specimens were obtained from an inspection of the suprarenal glands in 11,000 head of cattle They were all gelatin preparations mounted uniquely in plate glass boxes The latter were fitted in heavy oak frames in order to permit handling without danger of breakage

502 505 *Supernumerary Adrenals*—Found rather frequently in the ox and connected more or less intimately with the main gland

506 509 *Hemolymph Nodes*—These are often found intimately connected with the capsule of the adrenals and although generally much darker may have the same color and from gross inspection might be mistaken for accessory adrenals This series was shown for purposes of comparison with the preceding series

510 516 *Extensive Black Pigmentation of Adrenals*

517 520 *Similar Black Pigmentation of Hemolymph Nodes in Ox*

521 537 *Series of Seventeen Tumors of the Adrenals*—They varied in size from a cherry to the fetal head exhibited extensive black brown and orange pigmentation and extensive calcareous infiltration These neoplasms were mostly sarcomata A microscopic study of each is now in progress

These were all gelatin preparations in Petri dishes set by sixes in heavy oak boards from which they were readily removable They were designed by Dr Wynn for purposes of class demonstration

2 MISCELLANEOUS GROUP

538 552 Series of *Tuberculous Specimens*—(a) Lungs showing acute miliary type caseous pneumonia chronic apical lesions with abscess formation fibroid phthisis etc (b) Liver miliary form (c) Kidney acute miliary and chronic types (d) Spleen miliary form (e) Lymph nodes caseation and acute invasion (f) Pancreas acute miliary type

553 557 *Cancer Series*—Designed to show especially metastasis in the liver spleen and kidney

558 567 *Liver Series*—Illustrating alcoholic and biliary cirrhosis, passive congestion, fatty infiltration, etc

MEDICO CHIRURGICAL COLLEGE

(A) MICROSCOPIC EXHIBIT JOSEPH M'FARLAND AND GUTHRIE M'CONNELL

568 617 This was the only microscopic exhibit The sections were well prepared and each microscope was accompanied by an explanatory card or drawing The demonstrations of those in charge added greatly to the effectiveness of the series, which was designed to show Excessive cellular activity, edema, hyperemia, lymph metastasis lymphogenic extension impregnation of blood vessels cellular thrombosis cellular embolism and other conditions in the primary seat of disease predisposing to metastasis There were also a number of specimens showing how secondary tumors develop from lymphovascular and blood vascular emboli.

(B) GROSS PATHOLOGIC EXHIBIT JUDSON DALAND

This was a very complete heart and vascular series For the purpose of close inspection the specimens were exposed on platters

618 623 *Arteriosclerotic Series*—Showing obstruction of the coronaries with secondary myocardial changes fibrous thickening of the aortic valves atheromatous changes and tendency to aneurismal dilatation of the ascending aortic arch

624-627 *Series of Lesions of Aortic Valves*—Showing varying degrees of chronic aortic valvulitis associated with left ventricular hypertrophy

628 *Diffuse Sclerotic and Calcareous Changes* which have led to pouching off the aorta deformed aortic and mitral leaflets, with stenosis at the latter orifice

629 631 *Acute Vegetative Mitral Endocarditis*

632 633 *Buttonhole Mitral*

634 *Pedunculated Growth on Mitral Leaflet*

635 636 *Mitral Stenosis Enormous Hypertrophy*

637 640 *Series Illustrating Extensive Hypertrophy and Dilatation*—Secondary to the various cardiac lesions

641 643 *Series Showing Fatty Degeneration* and fibrous changes of the myocardium

644 645 *Ulcerative Endocarditis*

646 652 *Series Illustrating the Various Types of Pericarditis* ranging from the bread and butter appearance of the acute fibrinous to the obliterating form

653 655 *Aneurism of Left Ventricular Wall*

656 660 *Series Illustrating Various Types Frequently Found in Aorta*

661 *Aneurism of Subclavian* treated by wiring and electrolysis

662 *Specimens from Same Case* (Dr Wood)—Showing thrombus of left external iliac and embolus lodged in left popliteal artery

663 667 *Miscellaneous Specimens*

UNIVERSITY OF PENNSYLVANIA

(1) LABORATORY OF SURGICAL PATHOLOGY CHARLES H FRAZIER AND GEORGE P MULLER.

668 718 *Fifty Water Color Pictures Enlarged Photomicrographs and Drawings* designed to show the method of teaching surgical pathology at this institution

They consisted of "pictorial groups" illustrating both microscopic and macroscopic phases of pathologic lesions The group illustrating mammary carcinoma included a photograph of the patient, a water color of the breast in cross section after removal and lastly photomicrographs and drawings to show histopathologic structure Each picture group was separately framed In the absence of Professor Frazier, Dr Muller demonstrated the collection, giving in detail the methods of teaching this subject at the university

The 'Pictorial Groups were as follows (a) Acute Catarrhal Appendicitis (b) Acute Interstitial and Ulcerative Appendicitis with and without perforation and concretion (c) Chronic Interstitial Appendicitis. (d) Chronic Interstitial and Obliterating Appendicitis (e) Mammary Gland Scirrhus Carcinoma (f) Mammary Gland Medullary Carcinoma (g) Mammary Gland Malignant Adenoma a type in which the form of the acini is preserved arising in this specimen from an outlying mammary lobule (h) Mammary Gland showing metastasis in lymph glands and the skin in extensive ulceration resulting from carcinoma (i) Mammary Gland recurrence at site of former incision carcinoma nodules in pectoral muscle (j) Mammary Gland adenoma intracanalicular papillary fibroma (k) Parenchymatous Goiter (l) Epithelioma of Lip (m) Carcinoma of the alveolar mucous membrane encircling inferior maxilla and resembling sarcoma of latter (n) Hypernephroma of Kidney (o) Periosteal Sarcoma, spindle celled (p) Medullary Sarcoma of Bone (q) Caries and Necrosis of Bone. (r) Repair of Bone After Fracture (s) Myxosarcoma in Popliteal Space

(2) WILLIAM PEPPER CLINICAL LABORATORY D J M'CARTHY

This very complete collection was confined entirely to the domain of neuropathology The specimens were placed in shallow open jars so exposed as to show the lesion to best advantage Accompanying pencil sketches were of great help to the observer in studying the specimens Dr McCarthy formally demonstrated the collection, which consisted of the following series

719 727 *Specimens Illustrating the Vascular Supply of the Brain* as determined by areas of softening due to obliterating endarteritis of the middle cerebral or its branches Specimens showed areas of softening distributed as follows (1) Broca's area and island of Reil Clinically there was pure motor aphasia (2) Angular gyrus (3) First and second tempero sphenoidal lobe (4) Ascending parietal (post central) gyrus—lower two thirds Early sis of arm and face (5) Ascending frontal gyrus Recent obliteration of vessel Sudden paralysis of arm face and to some extent of leg from hemorrhagic extravasation (6) Softening and atrophy in the entire area of distribution of middle cerebral (7 9) Softening following complete obliteration of the sylvian artery

728 729 *Specimens of Obliterating Endarteritis* of terminal branches of the posterior cerebral showing softening in (1) cuneus (2) fusiform and lingual lobe

730 731 *Obliteration of Basilar* with softening of (1) superior

surface of cerebellum (2) inferior third of medulla with destruction of fillet and pyramids

732 736. *Series Showing Multiple Areas of Softening* due to arterial disease

737 739 *Series of Lesions Due to Disease of Venous System of Brain* (1) Extensive venous thrombosis of the veins of Galen straight sinus lateral sinuses and venous sinuses supplying cerebellum (2) Infiltrating venous hemorrhage affecting internal capsule optic thalamus and caudate nucleus (3) Venous hemorrhage limited to area of external capsule

740 741 *Lesions Secondary to Hemorrhage* before birth (1) Congenital absence of posterior third of right cerebral hemisphere Child died soon after birth Area between brain and dura was filled with a grumous fluid composed mainly of disorganized corpuscles (2) Extensive organized subdural hemorrhage covering the entire left half of brain of a five-months fetus Spontaneous abortion occurred while under observation in hospital

742 744 *Series of Aneurisms of Cerebral Arteries*

745 746 *Rupture of Cerebral Arteries*

747 750 *Hyaline and Pseudo Hyaline Exudates* into the Cerebral Ventricles

751 760 *Series of Brain Tumors* Endothelioma of left prefrontal lobe infiltrating the cortex Fibro sarcoma of left motor cortex Sarcoma of left leg center Sarcoma of left tempero-sphenoidal lobe Glioma of middle lobe of cerebellum Fibro sarcoma of left tempero-sphenoidal lobe Multiple sarcomata of brain Infiltrating sarcoma of tempero-sphenoidal lobe Myxo-sarcoma arising from choroid plexus—horse Endothelioma of lateral ventricle—horse

761 765 *Series Illustrating Tuberculosis of the Nervous System* Tuberculous meningitis with area of calcification Calcified area of tuberculosis of cerebellum Pachymeningitis externa—tuberculous Pachymeningitis interna—tuberculous Multiple tuberculous tumors of the brain one the size of a hazelnut on the left crus.

A number of the specimens shown were from the cases of Dr C W Burr at the Philadelphia Hospital, others were from the cases of Drs W S Wadsworth, J H Lloyd and W H Armstrong The remainder were from Dr McCarthy s cases

COLLEGE OF MEDICINE SYRACUSE UNIVERSITY

GAYLORD P CLARK

766-767 *Physiologic Models of the Nervous System*

These were designed by Dr Clark and are used in teaching the arrangement of the principal pathways of the nervous system They consist of serial sections made of wood representing typical sections of the spinal cord and brain enlarged twelve diameters, and painted to indicate the relative masses of gray and white matter Openings are cut in the white matter to correspond with the principal tracts of nerve fibers The sections are arranged one above another on a vertical support. The neurons are represented by colored cords, with knots tied either in one end or in the course of each cord, to indicate the cell body, and the ends are frayed to suggest the dendrites and terminal arborisations The colors are chosen to distinguish the afferent, ascending, descending and efferent fibers, the colors of the violet end of the spectrum being reserved for the first two sets, those of the red end for the last two, the brighter colors being used for the peripheral, the darker for the central fibers

In the absence of Dr Clark, Dr Busch demonstrated the method of using the models for teaching purposes

UNIVERSITY OF TEXAS DEPARTMENT OF MEDICINE

WILLIAM KEILLER

768-772 *Series of Five Wax Casts* to represent the surface appearance and progressive dissections of a case of cystic goiter

The casts were designed to place on record and demonstrate to students the complete surgical anatomy of a case of cystic enlargement of the thyroid gland which came to the dissecting room A plaster of Paris mold was taken of the bust and of each successive dissection The technic employed is as follows After allowing the mold to dry and cool, it is then moistened with water, banked up at the edge with putty and into it is poured a melted wax composed of equal bulks of hard paraffin, white wax and stearin (this may be tinted by adding a very little artist's oil color, say yellow ochre and carmine for a flesh tint) The melted wax is laved up on the side by means of a flat bristle paint brush the whole done slowly as the wax hardens After one-fourth of an inch is set on all parts of the mold it is backed and strengthened by narrow strips of burlap steeped in wax and overlying each other, to give the cast strength with the least thickness When the whole cast is about half an inch thick the mold and cast are immersed in cold water In two or three hours the cast will shrink slightly and become easily separable from the mold The cast is then, if necessary, partly carved and tinted with oil colors, the transparent colors being preferred as far as possible

773 *Leaden Specimen Tray or Box* for the preservation and demonstration of anatomic or pathologic wet specimens

It was designed by Dr Keiller and consists of a shallow leaden tray, set in a heavy oak frame and covered with glass, and with tubular inlet for admission of the preserving fluid

PHILADELPHIA GENERAL HOSPITAL

(A) GROSS MUSEUM SPECIMENS B C ROSENBERGER

This was, in the main, a heart collection, and there is probably no finer in the country The specimens were very carefully dissected, well preserved and the lesions skillfully exposed for inspection

774 779 *Series Illustrating of Pericarditis* showing beautifully the fibrinous fibrino purulent, hemorrhagic, villous and adherent types

780 807 *Endocarditis Series*—acute and chronic These showed varying degrees of stenosis and insufficiency of the mitral and aortic orifices Especially well illustrated were Vegetations—at different stages and of various sizes Ulcerative destruction of the leaflets Valvular fenestration Valvular deformities arising from sclerotic and calcareous changes.

708-810 *Series of Congenital Heart Anomalies* Communication between ventricles patulous ductus arteriosus Patulous foramen ovale one from a patient aged 72 years

812 813 *Aneurism of Left Ventricle*

814 *Organized Thrombus in Left Ventricle* extending into aorta

815 *Secondary Carcinomatous Nodules* in left ventricle

816 *Aneurism of Innominate Artery*

817 824 *Kidney Series* illustrating congenital cystic disease hydronephrosis nephrolithiasis and tuberculosis

(B) ROENTGEN RAY LABORATORY MIHRAN K KASSABIAN

825 1025 *Series of Skiagrams* made in the hospital and classified as follows (1) Foreign Bodies—In various parts of the body including bullets in the brain eye and methods of localization. (2) Fractures and Dislocations—These were of nearly every known variety and included several cases of congenital dislocations of the hip joint both before and after reduction by Professor Lorenz (3) Diseases of Bones and Joints—These included tuberculosis syphilis rachitis osteomalacia ostitis periostitis tumors and osseous diseases occurring in the course of nervous diseases as hemiplegia tabes dorsalis syringomyelia, etc. (4) Lung Diseases.—Phthisis in its various stages and the several varieties of pneumonia and pleurisy with effusion (5) Heart and Aorta—Hypertrophy dilatation and displacement of heart aortic aneurisms (6) Renal ureteral and vesical calculi (7) Brain tumors and cysts etc (8) Dental Cases—Unerupted teeth, necrosis, roots etc

1026-1125 *Transparencies*—These were made by camera and reduced to a uniform size (4x5) and placed in two frames illuminated through ground glass from the back These pictures showed more and sharper details than the prints and negatives.

1126 *Stereoscopic Apparatus*—This apparatus is unique producing a perspective or relief effect in the picture This relief effect is particularly valuable to the surgeon in diagnosing fractures and dislocations and foreign bodies as it shows the amount of overlapping of fragments extent and character of the dislocation and the exact location of foreign bodies.

1127 1167 *Photographs of Cases* under *x* ray treatment for malignant growths, skin diseases etc Dr Kassabian also exhibited a number of skiagrams from his private collection

PENNSYLVANIA HOSPITAL

WARFIELD T LONGCOPE

This collection was entirely in illustration of Hodgkin's disease Seven cases afforded the material of which Dr Longcope has made careful study He made a formal demonstration of the series as part of the official program

1168 *Case 1*—Photograph of the patient before death The specimens exhibited consisted of two huge wing like masses of enlarged lymph nodes extending on either side of the trachea also enlargement of the submaxillary sublingual superior mediastinal and retroperitoneal nodes and the axillary group on one side. Accompanying drawings represented the histologic appearance of the lymph nodes

1169 *Case 2*—Photograph showing typical appearance of the patient The specimen showed extensive enlargement of the cervical lymph nodes on each side of the retropharyngeal nodes and the submaxillary groups Reproductions from drawings to show histologic character

1170 *Case 3*—Enlargement only of a few lymph nodes on one side of the neck No involvement elsewhere

1171 *Case 4*—Enlargement of the retroperitoneal lymph nodes those along the iliac vessels and in the left inguinal region

1172 *Case 5*—Spleen in Hodgkin's disease Specimen shows extensive involvement of the organ by secondary nodules Reproductions from drawings to show the histologic changes in the lymphomatous nodules

1173 *Case 6*—Spleen from case of Hodgkin s disease presenting much the same appearance as the preceding

1174 *Hodgkin s Disease Lung*—The specimen demonstrated the mode of involvement of the lung by lymphomatous nodules The bronchial lymph glands were markedly involved.

Microscopic sections from various cases were shown to demonstrate the special phases of lesions

THE HENRY PHIPPS INSTITUTE

LAWRENCE F FLICK AND RANDLE C ROSENBERGER

This beautiful collection was highly creditable to the institution from whence it came

1175-1193 *Series Illustrating of Tuberculosis in Man*—The preparations illustrated well the following lesions Incipient apical tuberculosis—unmixed infection Ulcerative tuberculosis at the apex with complicating pneumonia at base Ulcerative type with recent hemorrhages Ulcerative form of secondary miliary invasion throughout lung Ulcerative form with peribronchial infiltration Cavity formation of all types, from those small in size to those occupying a whole lobe or the entire lung, cavities surrounded by thick fibrous walls Bronchiectasis associated with cavity formation Greatly thickened pleuræ associated with tuberculosis Tuberculous lesions of the intestines Tuberculous leptomeningitis

ZOOLOGICAL SOCIETY OF PHILADELPHIA

C Y WHITE

This exhibit was devoted to tuberculosis in the lower animals The specimens were beautiful Kaiserling preparations and were formally demonstrated by Dr White as part of the official program This collection together with the preceding made the exhibit of the lesions of tuberculosis in man and the lower animals very complete

1194 1196 —*Tuberculosis in Cattle*—The specimens showed the early, moderate and advanced lesions of 'grape disease' of the pleura in cattle

1197 *Tuberculosis of the Liver from a Nyghalae Deer*—The specimen showed well the chronic fibro-caseous form often seen in herbivora

1198 *Tuberculosis of Lungs of a Goat*

1199 *Tuberculosis of Lungs of a Bear*—The two preceding specimens showed the lesions of the lungs often observed in carnivorous animals, i e, widespread tuberculosis with the formation of cavities

1200 *Tuberculosis of Lungs in a Lemur*—The whole of one lung showed an acute tubercular pneumonia

1201-1212 *Series of Tuberculous Spleens from Monkeys*—The various stages of the tuberculous process were beautifully shown In some of the organs were pinhead sized tubercles others contained nodules the size of a cherry or walnut One spleen showed almost complete caseation.

1213 1214 *Tuberculosis of Spleen in Children*—These were exhibited for purposes of comparison with the tuberculous spleen in monkeys. The similarity is striking

1215 1223 *Generalized Tuberculosis in Monkeys*—All organs were shown in various stages of the tuberculous process

INDIANA STATE MEDICAL SOCIETY

FRANK B WYNN

This society enjoys the distinction of being the parent of the Scientific Exhibit idea The organization has not only maintained its own annual exhibit of this character for the past seven years, but has been a contributor to the exhibit of the Association the year before and every year since the Scientific Exhibit was inaugurated

1224 *Specimen of Cor Bovinum*—Weight in fresh state 1 544 grams Incompetence of mitral leaflets The patient had taken forty five minim doses of tincture of digitalis four times daily for a long period with marked benefit in relief of symptoms. This may have had something to do with the enormous hypertrophy Case of Dr Wynn

1225 *Tuberculous Pericarditis*—Of long standing as indicated by thick fibrous walls (measuring a centimeter at points) Adhesions finally broken down by extensive caseation involving the entire cardiac surface Great hypertrophy Case of Dr Guido Bell

1226 *Large Myxofibromatous Polyp*, one by three inches in dimensions attached one inch above the ileocecal valve, and protruding into the cecum Death occurred with symptoms of obstruction Operation refused Case of Dr L A Hyde.

1227 *Myxofibromatous Polyp of Stomach*—Two inches in length by a half in diameter Attachment one inch from pyloric constriction Polyp deflected and protruded into pylorus producing uncontrollable vomiting and death Case of Dr E Wishard

1228. *Round-Celled Sarcoma* the size of a walnut in the intestinal wall surrounded the opening of the common duct and produced extreme icterus Metastases in liver Case of Dr Sexton

1229-1233 *Series Showing Very Typical Arteriosclerotic Changes* in the splenic artery coronary vessels, aorta, mitral and aortic valves

1234 1239 *Series of Pedunculated Masses* obtained from the abdomen of the ox They are produced by torsion, no doubt from the peristaltic movement of the intestines The masses contained fat, fibrous and necrotic tissue, some of which were infiltrated with lime

GOVERNMENT HOSPITAL FOR THE INSANE

I W BLACKBURN

This exhibit was intended primarily to show the exhibitor's methods of photographing pathologic specimens, coloring the same, and the making of bromid enlargements for exhibition and teaching purposes Crayon work on these enlargements with the object of subsequent half tone or photo lithographic reproduction for book illustration, was a feature of the work The photographs exhibited showed a large variety of gross pathologic lesions of the brain and other organs, associated with cases of mental disease Cerebral arteriosclerosis was illustrated by numerous carefully prepared dissections reproduced by photographs and bromid enlargements This is the third year that Dr Blackburn has contributed to the Scientific Exhibit Those who witnessed his formal demonstration of this artistic collection thoroughly enjoyed it The exhibit consisted of the following

1240 1263 *Bromid Enlargements* of various pathologic subjects

1264 1343 *Eighty Colored Photographs* showing the exhibitor's method of using color in the preparation of subjects for book illustration

1344 1418 *Seventy five Photographs* of pathologic subjects illustrating gross lesions of the brain and other organs associated with mental disease

1419 1426 *Series of Wax Brain Casts* Prepared by the exhibitor's method

UNITED STATES BUREAU OF CHEMISTRY

H W WILEY

This exhibit was in illustration of food adulteration, especially of imported food products The demonstration of Dr Wiley, as part of the official program, was made very practical and interesting The following articles were shown

1427 1466 *Samples of Food Adulterations* especially of imported food products They included the following Olive oil adulterated with cotton seed oil Olive oil adulterated with 15 per cent peanut oil Olive oil adulterated with cotton seed oil and mislabeled as to size of bottle. Strawberry pulp containing salicylic acid and benzoic acid Egg albumin preserved with salicylic acid. Fruit juice preserved with salicylic acid Strawberry preserves colored with coal tar dye Strawberry preserves colored with cochineal German sausage preserved with benzoic acid. German sausage preserved with boric acid, the use of which is prohibited by German law German sausage preserved with aluminium acetate Strawberry preserves colored with anilin dye, and preserved with salicylic acid Rhine wine preserved with salicylic acid Grecian wine preserved with salicylic acid Orangeade labeled as containing benzoic acid and being colored. Jam labeled as containing benzoic acid and glucose Misbranded cherries contains no creme de menthe colored with an anilin dye Alleged vegetable color showing a method of labeling Artificial vinegar colored with anilin dye and preserved with salicylic acid Maraschino cherries colored with anilin dye Fruit syrup adulterated with glucose Ginger ale preserved with benzoic acid Tomato catsup preserved with benzoic acid Orangeade colored with anilin dye and preserved with salicylic acid Alleged vegetable color containing coaltar dye. Alleged vegetable color showing method of relabeling Sauterne wine containing 460 milligrams of sulphurous acid per liter of which 125 milligrams are free Sauterne wine preserved with salicylic acid. Sauterne wine containing 500 milligrams of sulphurous acid per liter of which 110 milligrams are free Sauterne wine containing 400 milligrams of sulphurous acid per liter, of which 80 milligrams are free

WILLIAM G SPILLER PHILADELPHIA (PRIVATE COLLECTION)

This collection was a beautiful series of brain specimens illustrating various forms and situations of tumors of that organ Among these were glioma, endothelioma, sarcoma, carcinoma and fibroma Dr Spiller made an interesting formal demonstration of the collection

1467 *Metastatic Carcinoma* surrounding the optic chiasm and extending into one orbit.

1468 *Endothelioma* growing from the dura The underlying cortex was found much atrophied

1469 *Large Fibroma of the Cerebello pontile Angle*, implicating the acoustic and facial nerves

1470 *Fibroma of Cerebello pontile Angle*, causing internal hydrocephalus

1471 *Specimen of Meningitis in Plaques*—Tuberculosis plaques, flat, adherent and confined largely to one parietal lobe and giving the symptoms of brain tumor This is a very rare form of tuberculosis and does not seem to have attracted attention in this country

1472 *A Brain Showing Arrest of Development* of the cerebral hemisphere of one side and of the cerebellar hemisphere of the opposite side.

JAY F SCHAMBERG PHILADELPHIA (PRIVATE COLLECTION)

This excellent collection of photographs of dermatological cases was arranged in two groups illustrative respectively of smallpox and cutaneous syphilis

1473 1502 *Series of Photographs Illustrating Smallpox Eruptions*

(1-4) An unvaccinated lad showing eruption on the fourth, eighth and eleventh days and after recovery

(5 10) Six serial photographs exhibiting the evolution of the smallpox lesions Photographs show patient on the fourth sixth seventh ninth and fourteenth days of eruption and after recovery

(11 12) Smallpox in unvaccinated mulatto Eruption extensive but not deep seated in the skin, hence but slight scarring Eyelids and features tumefied

(13) Severe case showing characteristic distribution of the eruption Face completely covered with confluent lesions, extremities profusely attacked, comparative sparsity of lesions on the abdomen

(14 15) These showed the large hemispheric pustules such as are often seen in unvaccinated subjects.

(16) Smallpox in unvaccinated girl of 14 Lesions on the arms exhibited the so called secondary umbilication due to partial collapse of the pustules and sinking in of the centers

(17) Photographs representing mild and severe attacks in two unvaccinated children In the mild case the lesions were discrete in the other confluent producing swollen and distorted features The latter patient succumbed

(18) Well pronounced discrete smallpox in a girl of 16 The lesions were confluent in clusters due to slight abrasions and congestion of the skin at points previous to the attack

(19) Hemorrhagic smallpox of the purpuric variety The patient a pregnant woman, contracted the disease from a mild at

tack in her father in law the nature of which was not suspected She gave birth to a living child at term and expired a few days afterward The eruption consisted of pinhead sized petechiæ covering the entire body with here and there larger ecchymoses

(20) Infant of patient with hemorrhagic smallpox The disease was contracted in utero and the eruption appeared on the ninth day after birth The child was vaccinated on the second day A tardy vaccine vesicle appeared but it was not sufficient to prevent the development of fatal smallpox.

(21 22) Two cases of discrete smallpox one in an unvaccinated young man the other in an old man not vaccinated since infancy The lesions in the former were large full pustules In the vaccinated patient they were distinctly modified Vesiculation and pustulation were rapid crusting soon took place and the crusts dropped off in a week These cases run a very rapid course and when the modification is pronounced may offer considerable difficulty in diagnosis.

(23) Smallpox in child of 6 showing confluent blackish crusts covering the entire face and presenting a most hideous appearance The patient was neglected at home and the blackish mask over the face resulted from the drying of the pustular contents of ruptured lesions and the admixture of dirt.

(24) Case showing the profusion of lesions on the hands in severe case of smallpox. The hands become swollen, painful and a source of great distress to the sufferer

(25) Soles of the feet shown with the epidermal excavations left after the removal of the inspissated pocks Patients while away their convalescence by digging out with a penknife the encapsulated lesions of the palms and soles.

(26) Extensive scarring of the face and baldness following a severe attack of smallpox Also lost an eye from severe corneal ulceration.

(27) Extensive pigmentation of the body over the areas occupied by the variolous lesions. After an attack of smallpox the sites of the lesions remain red for several months and in persons of swarthy complexion they may later assume a café au lait tint

(28) Abscessed eyeball from corneal ulcer

(29) Gangrene of skin of thigh during third week of attack Recovery

1503 1517 *Series of Photographs in Illustration of Cutaneous Syphilis*

(1) Photograph showing a large chancre of the chin in a young woman who worked in a laundry in a disreputable neighborhood The lesion is alleged to have resulted from scratching an acne lesion after having handled linen soiled with discharges

(2) Maculo-papular syphilide of the face in a woman following the roseola

(3) Severe papulo-tubercular syphilide most prominent on the face Patient had early symptoms of meningeal involvement but recovered under vigorous treatment.

(4) Generalized papulo-pustular syphilide of the varioloform type. Patient was sent to the Municipal Hospital as a case of smallpox. Fortunately, she was promptly vaccinated and protected against smallpox.

(5) Acneiform syphilide involving the face trunk and extremities This patient had a long standing acne, and it was difficult to tell which of the facial lesions were acne and which were syphilitic.

(6-7) Extensive annulo-papular syphilide on the face of a colored girl This variety of syphilide is much more common in negroes than whites

(8) Large papular syphilide which during the epidemic prevalence of smallpox was suspected of being variolous

(9) Case of syphilide sent to the Municipal Hospital as smallpox, and completely deceived two professors in one of the medical schools. The patient later developed ulcerated lesions on the skin and in the throat and almost perished

(10) Types of circinate squamous syphiloderm on the palms of the hands.

(11) Ulcerative syphilide on the lateral aspects of the heel of six months duration

(12) Tubercular ulcerating syphilide of the face in a woman who grossly neglected early treatment.

(13) Hutchinson s teeth in a child with hereditary syphilis The test teeth are the upper central incisors These were crescentically notched and distinctly peg-shaped

(14) Syphilitic dactylitis in a young man 19 years of age with hereditary syphilis.

(15) From same patient as preceding and showing gumma projecting from the forehead

J W DRAPER MAURY NEW YORK (PRIVATE COLLECTION)

This exhibit represented research work from the department of surgical pathology at Columbia University The collection was demonstrated by Dr Maury in connection with his paper before the Section on Surgery, on "Twine in Lieu of the Elastic Ligature for Performing Gastroenterostomy"

1518-1527 *Series of Gastroenterostomies Performed on Dogs and a Pig*—These experiments seemed to prove the advantage of twine over the elastic ligature Twine cuts through when inserted by the triangular stitch as a result of deprivation necrosis while the elastic stitch as inserted by Dr McGraw cuts through by simple pressure.

F C BUSCH BUFFALO (PRIVATE EXHIBIT)

1528-1530 *Series Showing Successful Grafting of the Suprarenal in the Kidney of a Rabbit*

The grafts apparently carried on the suprarenal function after all other suprarenal tissue had been removed These specimens were demonstrated by Dr Busch as part of the official program

MYRON METZENBAUM CLEVELAND (PRIVATE EXHIBIT)

1531 1580 *Pictures Representing the Results of Typical Experiments with Radium* thorium uranium pitchblend and other radioactive substances, and showing their action on photographic plates

Some pictures were shown indicating the effect of metallic aluminium on photographic plates Photographs were shown of a case of very extensive lupus healed by the aid of radium after the case had been treated unsuccessfully for a year with the *x*-rays.

JOHN G WILSON, MONTROSE, PA (PRIVATE EXHIBIT)

1581 *Radiogram* of the hand and forearm

1582 *Radiogram* of shoulder, showing fracture of the surgical neck of the humerus.

These were remarkably clear and perfect *x* ray pictures

The Public Service.

Army Changes

Memorandum of changes of stations and duties of medical officers U S Army, week ending Sept. 10 1904

Gregory Junius C, asst surgeon reports for temporary duty at Fort Miley, Cal

Godfrey G C M asst surgeon, granted seven days' leave of absence

Reilly, John J, asst surgeon sick leave of absence extended thirty days

Rockhill Edward P asst. surgeon ordered to proceed from Presidio of San Francisco to Fort Miley Cal, for temporary duty

Mabray, William C contract surgeon, granted one month s leave of absence from Sept 4, 1904

Navy Changes.

Changes in the medical corps U S Navy for the week ending Sept 10, 1904

Urie J F, surgeon detached from the *Missouri* and granted sick leave for three months

Drake N H, surgeon, detached from the *Lancaster* and ordered to the *Hancock*

Guest M S P A surgeon, ordered to the *Lancaster*

DeValin C M P A surgeon unexpired portion of leave revoked ordered to duty at the Naval Hospital Philadelphia

Marine-Hospital Service

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ending Sept. 7, 1904

Brooks D D surgeon, granted leave of absence for thirty days from Sept. 2 on account of sickness

Hobdy W C P A surgeon, granted leave of absence for seven days from Aug 20 1904, under the provisions of Paragraph 191 of the Regulations.

Kerr J W P A surgeon, granted leave of absence for four days from Sept. 5, 1904 in accordance with the provisions of Paragraph 191 of the Regulations

Robinson D E P A. surgeon granted leave of absence for two days from Sept 6, 1904, under the provisions of Paragraph 191 of the Regulations

Hunt Reid pharmacologist detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City Mo Sept. 5 10 1904

Ballard J C A. A surgeon, granted leave of abence for seven days from Sept 5 1904

Mackall P McV A. A surgeon, granted leave of abence for seven days under the provisions of Paragraph 210 of the Regulations

Roehrig A M pharmacist, granted leave of absence for thirty days from Sept 12 1904

Stearns W L pharmacist, granted leave of absence for twenty nine days from Sept. 6 1904

O Gorman T V pharmacist, department letter of Aug 10 1904 granting leave of absence for thirty days from Aug 18, 1904 amended so that said leave shall be effective from Aug 24 1904

La Grange J V pharmacist granted leave of absence for twenty three days from Sept 15 1904

Holsendorf B F pharmacist, department letter of Aug 6 1904 granting leave of absence for thirty days from Sept. 1 1904 amended so that said leave shall be for twenty four days only

BOARD CONVENED

Board convened to meet at Washington D C Oct 3 1904, for the examination of candidates for appointment as assistant surgeon in the service Detail for the board Surgeon W P McIntosh chairman Surgeon G M Guiteras P A Surgeon John F Anderson recorder

PROMOTIONS

Assistant Surgeon D H Currie commissioned as P A surgeon, to rank as such from July 28, 1904

Assistant Surgeon J M Holt commissioned as P A surgeon to rank as such from July 27 1904

Assistant Surgeon F E. Trotter commissioned as P A surgeon to rank as such from July 27 1904

Health Reports.

The following cases of smallpox, yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine-Hospital Service during the week ended Sept. 9, 1904

SMALLPOX—UNITED STATES

District of Columbia Washington Aug 27 Sept. 3 1 case

Florida Jacksonville Aug 27 Sept. 3, 1 case

Illinois Chicago Aug 27 Sept 3 5 cases

Louisiana New Orleans Aug 27 Sept. 3 4 cases, 1 case imported

Massachusetts Aug 27 Sept 3 Lawrence 1 case, North Adams 22 cases, 1 death

Michigan At 51 localities Aug 20 27 present

Ohio Cincinnati Aug 19 26 1 case

Pennsylvania Aug 27 Sept. 3 Philadelphia 1 case Williamsport 1 case

Tennessee Aug 27 Sept 3 Memphis 1 case Nashville 3 cases

SMALLPOX—FOREIGN

Brazil Rio de Janeiro, July 24 Aug 7 549 cases, 210 deaths
Canada Winnipeg Aug 13 20 1 case
France Paris, Aug 13 20, 8 cases, 1 death
Great Britain Glasgow Aug 19 26 2 cases Aug 13 20, London, 2 cases, Nottingham 2 cases, Manchester, Aug 6 20 6 cases
India Bombay, Aug 2 9, 8 cases, Karachi July 31 Aug 7, 3 cases
Italy Palermo Aug 13 20, 37 cases, 4 deaths
Mexico City of Mexico, Aug 14 21 12 cases
Russia St Petersburg, Aug 6 13, 7 cases, 2 deaths, Warsaw, July 16 30, 44 deaths
Spain Barcelona Aug 10 20 8 deaths
Turkey Alexandretta, Aug 6 13, 6 deaths, Beirut, Aug 6 20, present, Constantinople, Aug 7 21, 16 deaths, Smyrna Aug 7 14, 2 cases

YELLOW FEVER

Brazil Rio de Janeiro, July 24 Aug 7 6 cases, 2 deaths
Ecuador Guayaquil Aug 3 10 2 deaths
Mexico Aug 20 27 Coatzacoalcos 5 cases, 1 death Vera Cruz 4 cases, Aug 21 27, Merida 3 cases, 2 deaths, Tehuantepec, 1 death

CHOLERA

India Bombay, Aug 2 9, 34 deaths, Calcutta, July 30 Aug 6 4 deaths
Persia Teheran Aug 6 nearly extinct
Turkey Bagdad and vicinity July 16 23, 314 cases, 138 deaths

PLAGUE

Brazil Rio de Janeiro July 24 Aug 7 15 cases 6 deaths
China Amoy July 16 30 15 deaths estimated
Egypt July 30 Aug 6 12 cases 7 deaths
India Bombay Aug 2 9 75 cases 51 deaths Calcutta July 30 Aug 6 8 deaths Karachi July 31 Aug 7, 5 cases, 2 deaths
Peru Eten, Sept 1, present

Society Proceedings.

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Portland, Ore, July 11 14 1905

International Congress of Arts and Science Department of Medicine at Universal Exposition St. Louis, September 19 25
Medical Society of the State of Pennsylvania Pittsburg, September 27 29
Colorado State Medical Society, Denver October 4 6
Idaho State Medical Society, Lewiston, October 6 7
Tri State Medical Society of Alabama, Georgia and Tennessee, Chattanooga October 12 14
Assn of Military Surgeons of the U S, St. Louis October 10 15
Mississippi Valley Medical Association Cincinnati October 11 13
Vermont State Medical Society Rutland October 13 14
New York State Medical Association, New York October 17 20
Medical Society of Virginia, Richmond, October 18-21

CALIFORNIA ACADEMY OF MEDICINE

Meeting held in San Francisco, Aug 23, 1904

The President, Dr T W Huntington, in the Chair

Bacterial Etiology of Gallstones

DR LARTIGAU described his experimental studies on the production of gallstones At least two important conditions must be fulfilled in order to produce gallstones experimentally In the first place it is necessary to infect the bile passages with organisms of low virulence, for if virulent organisms are used a serious infection results, but no gallstones are produced The second factor necessary is an obstruction to the outflow of bile, for without this no gallstones will result from the infection By complying with these two conditions Dr Lartigau was able to produce gallstones by infections with a variety of organisms, among them the colon bacillus, the typhoid bacillus, the hog cholera bacillus, the bacillus pyocyaneus, staphylococci, and even tubercle bacilli Stagnation of the bile was produced by placing bits of cotton in the mouth of the gall bladder and by partially ligating the duct It made little difference which organism was used provided the above named conditions were complied with, but it seemed as if the motile bacteria were more likely to give rise to stones Pure cultures and mixed cultures were equally effective The shortest time necessary to produce a stone was six weeks, but usually it took from four to twelve months The longer the time, the larger was the stone The reaction of the bile made but little difference After infection the bile became more watery and of a lighter color No relation could be discovered between the nature of the infection and the chemical character of the stone The introduction of sterile material such as silk or sand did not give rise to gallstones It seems probable that the infection in man is by way of the portal vein and not through an ascending infection of the biliary passages A number of facts favor this view Adami and Ford have elaborated the theory that there is a constant passage of bacteria through the mucosa of the intestines The bacteria of cholecystitis are not those commonly found in the duodenum If the common duct be tied, we get an infection of the bile passages Finally, if an enteritis be caused by the administration of arsenic or bichlorid of mercury, and if then the animal is fed with some easily recognized organism, as the *Bacillus prodigiosus*, this organism may be found in the bile passages From a consideration of these facts it seems not only possible, but probable, that the infection of the gall bladder in man is by way of the portal vein

DISCUSSION

DR W W KERR asked What is the condition of the wall of the gall bladder in these experimental animals? Is it not possible that carcinoma of the biliary passages might give rise to gallstones? It would produce the necessary stasis and the diseased condition of the wall might favor the formation of stones The ordinary duration of a carcinoma would also allow time for the formation of stones Cholesterin stones are probably produced by a perverted secretion of the mucous membrane of the gall bladder

DR GEORGE BLUMER mentioned Cushing's suggestion that agglutinated clumps of typhoid bacilli might form the nuclei of gallstones, and asked if there was any evidence of such a process in the present series of experiments Human stones differ from those produced experimentally in that they are present in very great numbers in most cases, and all the stones seem to be of about the same size

DR HUNTINGTON asked if normal bile is sterile The stasis is an important factor in the infection of such a series of tubes as the bile passages It has been shown, for example, that the injection of virulent bacteria into the normal appendix is without effect, whereas if the appendix be ligated a severe appendicitis will result Recurrence after the removal of gall stones is not very common According to Mayo, it occurs in from 5 to 6 per cent of all cases

DR. LARTIGAU stated that the gall bladders in his animals showed a thickened mucous membrane, with some cicatricial tissue and some necrosis Many gall bladders containing stones show adenomatous growths resembling carcinomata He was not prepared to say what effect the agglutination of bacilli might have on the formation of gallstones As is the case with many other fluids in the body, ordinary cultures made from the bile are usually sterile, but by special methods, using large quantities of bile in large amounts of bouillon, a few organisms can usually be demonstrated to be present even in normal bile

Maldevelopment of the Ear

DR C M COOPER exhibited a young man who complained of dizziness The left external ear was small and deformed, the external auditory canal closed In such cases the middle and internal ears also are usually poorly or not at all developed In this case, however, the eustachian canal is open and the middle ear can be inflated An examination with the *x* ray shows the presence of the semicircular canals and a fully developed mastoid bone The right side of the tongue is somewhat smaller than the left, and when protruded the tongue deviates somewhat to the right The right side of the palate is paretic The posterior cervical glands are enlarged The condition is probably due to a congenital syphilis

DR STAPLER asked about the possibility of the deformity of the ear being a sign of degeneracy The general intelligence of the patient should be examined and his family antecedents gone into

DR COOPER stated that the boy was quite bright and that the paresis in his mouth was typical of congenital syphilis

A New Method of Examination with the X-Ray

DR C M COOPER described a new method of examining the abdomen with the *x* ray The patient lies face downward on a piece of canvas and the *x* ray is placed beneath him The colon is then blown up with gas and at the same time he is exam ined with the fluoroscope By this method the spleen and kidneys can be seen and tumors of these organs differentiated from those of neighboring organs

Dr H C Moffitt stated that he could confirm the value of Dr Cooper's method He believed it more satisfactory than the older method of distending the colon and then using percussion to differentiate the spleen from the kidney It may prove of great service in the examination of the left hypochondrium

THE OBSTETRICAL SOCIETY OF PHILADELPHIA

Regular Meeting, June 2, 1904

The President, Dr Richard C Norris, in the Chair

Report of a Case of Ovarian Cyst with Retained Menstrual Blood

Dr. Marie K. Formad reported a patient, 45 years of age, single, who had never menstruated and always had a large abdomen, but suffered no discomfort nor pain from it Six or seven weeks before coming to the hospital she noticed that the abdomen became rapidly larger and the skin tense Her feet began to swell, and she had dyspnea when going upstairs Otherwise she felt well and worked at her trade, that of an operator in a hosiery mill, until three days before she entered the hospital, April 28, 1904 Abdominal inspection showed enlargement of the abdomen, most prominent on the left side, dullness on percussion to and above the umbilicus On palpation, the mass fluctuated, fluid seemed to be encysted, as there was no bulging in flanks, nor change in location of tumor with patient in different positions The right side was tympanitic to median line below the umbilicus The vaginal examination showed vagina very short, absence of cervix Bulging of both fornices. Uterus not palpable. A clinical diagnosis was made of bicornate uterus with retained menstrual secretion Correct diagnosis Multilocular ovarian cyst Complete congenital atresia of the uterus Left horn of uterus was dilated and ran out into the fallopian tube and directly passed into a single loculus of the multilocular cyst Right tube ended in blind extremity In the cornu just outside of the occlusion a tubal calculus was found

DISCUSSION

Dr. L. J Hammond—This very instructive case is the exception, not the rule, in ovarian cystoma, the typical fluid found being characteristically straw colored This chocolate colored content is not uncommonly found in the broad ligament cysts of the paroöphoritic type It is instructive, therefore, to note this condition of papillomatous change existing in ovarian cysts These masses, as described in this specimen, might readily account for the blood mixed fluid found in such large quantity in the cyst

Dr Formad—This is not a broad ligament cyst, but an ovarian cyst This was shown by the microscopic examination

The Ultimate Results of Induced Labor for Minor Degrees of Pelvic Contraction.

Dr. Richard C Norris read a paper reporting in detail thirty cases with their results, for mother and child, the degrees of contraction varying in the conjugate diameters between 8 and 10 cm There was neither maternal mortality nor morbidity The infantile mortality was 10 per cent after following the histories of the children subsequent to their leaving the hospital Dr Norris took issue with those who recommend hasty cesarean section for these grades of deformity He quoted Williams' statement that hardly more than 50 per cent of the infants survive the first few months of life, and said that that statement could only be true of induced labors for high grades of contraction, a field no longer to be tested by induced labor, but by the elective cesarean section. He also referred to Reynolds' statement that cesarean section is indicated when with any definite pelvic contraction there is a history of repeated child births during previous operative labors and for healthy primiparæ with conjugates between three and four inches, that the amount of difficulty which will occur should be estimated by observations of the progress of labor, but that the possibility that an indication for the cesarean section may arise should always be borne in mind in such a case, and that all the preparations for it should be made beforehand, or at least during the first stage of labor Norris referred to his tables and asserted that it was in just such cases that his best results were obtained by induction of labor, not more than four weeks, and usually two weeks before term The assistance given Nature by skillful induced labor, and the employment of the Trendelenburg Welcher posture, had repeatedly avoided the necessity for a difficult operative delivery which ordinarily gives the high fetal mortality He discussed the difficulties of accurate estimation of the duration of pregnancy and outlined the plan he followed to eliminate, so far as possible, the induction of labor at too early or too late a period of pregnancy An analysis of his tables of thirty cases was presented and a plea made for the adoption of this method of treatment in place of the hasty and oftentimes spectacular cesarean section which, in his judgment, had sometimes been an exhibition of experimental and unnecessary surgery

DISCUSSION

Dr George M Boyd—While Reynolds may do a long series of cesarean sections, and Norris still another series of induction of premature labor without death, we do have cases of death from cesarean section and from induction of premature labor Dr Norris is to be congratulated on his results, which show a much lower fetal mortality than many of us have enjoyed. It has been the high fetal mortality which has caused many to refrain from performing the induction of premature labor In my own experience in the Lying in Charity for fifteen years, I confess that I have only in exceptional cases resorted to induction of labor, because of my inability to measure the length of gestation It seems to me there must almost always exist a latitude of two or three weeks, and it is just that latitude which makes the operation uncertain If the operation is of any real benefit it must be done sufficiently early Then again, some patients will go into labor right after the introduction of one or two bougies, and other patients not until after many hours In some cases I have seen the unfortunate rupture of the membranes with the best operators There is some danger also of striking the placental site, and some slight danger from infection, so that fearing the early rupture of the membranes, I have preferred to allow my patients to go to term I feel that the only really accurate way of measuring the pelvis is by the test of labor and noting whether the head is or is not adapting itself to the birth canal So far as my experience goes I feel that the patient would be best served by permitting her to go to term, and after the test of labor, resorting to the operative measures that seem best indicated.

Dr Daniel Longaker—It seems to me that the indications for this particular operation are clearly set forth in limiting the induction of premature labor to the lesser degrees of pelvic contraction Going back some considerable time in my own experience, I remember different cases in which the operation of induced premature labor was ill advisedly applied to degrees of pelvic narrowing which were entirely too great to permit of even the safe delivery of a child that had only reached the twenty eighth week of gestation For instance, a child that had not attained a weight of more than five and a half pounds and, as nearly as we could determine, a period of gestation of from twenty eight to thirty weeks, with a difficult extraction in a woman whose direct conjugate was estimated to be 7½ cm, or a little under, too great a degree of contraction to permit safe extraction, and the child had to be delivered by version If one selects the operation for that class of cases it must fall into disrepute That particular woman was safely delivered twice after that by symphysectomy of a living baby of large size at term The cases in which induced premature labor will have brilliant results are the lesser degrees of contraction, the direct conjugate being not under 8 cm I do not know whether I am correct in my conclusion, but my impression is that in these cases there is a tendency, for some reason which I do not care to discuss to protracted gestation I have knowledge of cases which have been carefully studied in which the gestation has gone to almost 300 days, 28 to 30 days beyond the computed time, and where the size of the child was an additional evidence that it had been carried beyond the average time. I think that where we have reason to know from external measurements, and from the history of preceding labors that there is pelvic contraction, it behooves us to watch the case with extreme care and to estimate not only the size of the pelvis, but the size of the fetal head, which can best be obtained by the Miller method In a case of this kind we should not allow the gestation to be protracted, and much will be gained by timely interference

Dr William R. Nicholson—It strikes me that the induction of premature labor is one of our most useful obstetrical procedures, since the smaller grades of pelvic deformity are the common ones met with It seems to me that to allow a woman with a contracted pelvis to go into labor with her first child, to determine whether she can give birth to that child spontaneously is in certain cases a pretty dangerous method to follow, unless the patient be of the best class of society, since in certain grades of practice it is not possible to do cesarean section in private houses, and it strikes me that a method which offers an alternative in the largest number of cases, is a very valuable thing to have in one's possession I think Dr Boyd has stated all the possible objections The only thing that occurred to me in listening to him was that a man who was unfit to put in a bougie so far as sepsis was concerned, was unfit to do a cesarean section While I have not induced labor 100 times, I have never seen the slightest difficulty in regard to the rupture of the membranes, and have never had a case which has shown temperature after the bougie was in place, unless the induction was prolonged and the membranes ruptured

Dr. R. C Norris—We talk about the difficulty of estimating the duration of pregnancy I would like to ask Dr Boyd when he predicts for his patients the probable date of confinement how many times his patients go three or four weeks over that time We do miss it once in a while, but in my hospital and private practice I find quite accurate estimates are made When the estimates have been inaccurate I have explained the error in two ways either the woman herself has made a mistake in her recollection of her last period and of the date of quickening, or she was that type of woman who conceives just before her first missed period rather than just after her last period The estimation of the duration of pregnancy is not difficult when we have a reliable history It is usually in the lower classes that the women forget or disregard the date of their last sickness, and in these cases I admit it is often difficult to determine the duration of pregnancy solely by fetometry You can not do so as accurately as by the history of menstruation and quickening All these facts should harmonize the history of menstruation and of quickening, and the estimated size of the child, and height of fundus I have known the advocates of hasty cesarean section to make the same error in calculation and to deliver six pound babies that have to be put in incubators The plea of my paper is emphasized by Dr Longaker when he speaks of confining our discussion to minor degrees of pelvic narrowing The period of time required for the termination of an induced labor has varied from 6½ to 64 hours The rubber bag is of the greatest value The bougies used alone often will not be efficient I remember Dr Parvin on one occasion putting in a series of bougies which remained for a week or more without bringing on pains In cases of that kind, the rubber bag is essential, and in my cases I accomplished the result in an average of 29 hours, and without danger of sepsis Premature rupture of the membranes when passing the bougie carries with it a certain amount of danger Partial separation of the placenta I have noticed several times, but never with an ill effect on mother or child The danger of infection is a matter of individual equation, and depends on one's aseptic technic The test of labor is justifiable in most degrees of pelvic deformity, and I do not see any disadvantage if the labor is brought on two to three weeks before time You have a smaller baby's head, and if the test shows that the mother is going to fail, you are in a better position to do version or use the forceps with a baby two weeks under its time than with a baby ten days or two weeks over its time I have read nothing in literature, nor heard remarks from men doing frequently the cesarean section for the same grade of cases that would make me change my position, and my own records carefully studied have convinced me more than ever that many cesarean sections can be safely avoided by skilled induction of labor

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Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer]

Muscular Cramps

Revue Medico Pharmaceutique suggests the following formula

R	Vini opii		
	Chloroformi		
	Olei hyocyami, āā	, ℥i	30

M Sig Apply locally with friction If relief is not soon experienced, sodium bromid should be administered internally

Syphilis

In *Lyon Medicale* Molle gives the following prescription of Simonet for secondary manifestations

℞	Hydrarg chloridi corrosivi			
	Sodii chloridi, āā	, gr xxx	2	
	Aquæ dest	m xc	6	
	Pulv gluten	℥ss	15	
	Ext opii	gr xxss	1	50
	Glycerini	m xlv	3	

M Ft pil No cc Sig Two pills three times daily

INFANTILE SYPHILIS

Mercurial frictions, according to *Journal des Praticiens*, are well borne by children The Neapolitan ointment is made as follows

℞	Metallic mercury	500 parts
	Benzoinated lard	460 parts
	White wax	40 parts

M Sig One to five drams to be rubbed into the skin

For an infant the ointment should be rubbed in with a piece of flannel on a different part of the abdomen every morning The ointment should be allowed to remain After a month of such treatment, it should be suspended for a week and then recommenced, and this procedure should be kept up for a year

Local lesions may be treated with

℞	Hydrarg ammoniati	gr xlv	3
	Petrolati	℥i	30

M Sig Use locally

After one year's treatment potassium iodid should be given 1½ grains (10 centigrams) daily for three weeks, ten days intermission, then three more weeks of treatment Every three months, inunction should be resumed for two weeks

Prophylaxis is important, careful choice of wet nurse forbidding of kissing, use of cow vaccine exclusively, with aseptic instruments

In hereditary syphilis, at the end of a year of inunction, half to one teaspoonful may be given daily of Gilbert's syrup

℞	Hydrarg iodidi rubri	gr ivss		30
	Potassii iodidi	℥i	30	
	Aquæ dest	℥i 2/3	50	
	Syrupi cinchonæ	℥xxxi 2/3	920	

M Do not filter Sig One half to one teaspoonful daily

At the end of the second year, 3 grains (20 centigrams) of potassium iodid may be given daily

The liquor of Van Swieten is sometimes substituted

℞ Hydrarg chloridi corrosivi	1 part	
Aquæ dest	900 parts	
Spiritus rectificati	100 parts	

M Dissolve the sublimate in the alcohol, then add the water Sig Ten drops daily for each month of age

The prophylaxis of hereditary syphilis consists of the treatment of the parents, of the syphilitic pregnant woman, discouragement of marriage between syphilitics, and the nursing of the syphilitic child by its mother, never by a nurse

Neuralgia

Revue Medico Pharmaceutique recommends the following formula as valuable in neuralgia

℞ Quinin valerianatis	gr iss	10
Extracti hyoscyami	gr 3/10	02
Extracti cinchonæ	gr ¾	05

M Ft pil No i Sig Take two to four such pills daily

Eye Bruises (Black Eye)

Merck's Archives recommends the following

℞ Acidi acetici dil	℥v	150
Tincturæ arnicæ		
Ammon chloridi, āā	℥i	30
Aquæ dest ,	℥v	150

M Ft lotio Sig Apply locally

Cystitis

The *Critical Review* attributes the following prescription to Keyes, who recommends it as of value in the treatment of acute cystitis

℞ Liq potassæ	ʒiv	16
Ext hyoscyami fl	ʒvi	25
Syrupi aurantii cort	℥iii	90
Aquæ cinnamomi q s ad	℥vi	180

M Sig Teaspoonful in water three times a day

Pepper recommends the following

℞ Potassii bromidi		
Sodii bromidi, āā	ʒii	8
Ext belladonnæ	gr iv	25
Ext buchu	ʒi	4
Syrupi sarsap comp q s ad	℥iv	120

M Ft sol Sig Tablespoonful three times a day after meals

Diet in Diseases of the Liver

Linnosier (*Bull et Mem de la Societe de Therapeutique*, February, 1904) says that it is necessary to exercise care in regard to quantity as well as quality of diet in the treatment of liver diseases Meats are to be more or less completely excluded, according to the severity of the disease Lean ham and fresh fish are the most suitable meats Milk is an excellent article of diet, there is no necessity of excluding the fat from the milk, as it is commonly advised, because the fat, on account of its emulsifying properties, is in many cases well tolerated Fresh vegetables (peas, beans, salads, etc) are to be recommended in cases where digestion is as good as normal Turnips and cabbage, etc , are not to be permitted Bread and dishes prepared with flour may be given to some extent, foods, however, the ash of which is rich in phosphoric acid, are not to be permitted, as they increase the already existing acid intoxication Potatoes, the ash of which is alkaline, are allowed Ripe fruits are suitable on account of their laxative powers and their contents of vegetable acid salts The latter are changed to carbonates and therefore have a favorable influence on the existing hyperacidity Water is the best drink, alkaline waters when there is hyperacidity Small quantities of coffee may be allowed, but chocolate, on account of being rich in fats and oxalic acid, is to be prohibited

Constipation in Infants

Infants who are being fed exclusively on milk either breast or bottle, which is low in percentage of fat are very likely to suffer from constipation Rotch has noticed that when breast milk contains a low percentage of fat and a high percentage of proteids the stools are feeble and watery Boiling and pasteurizing are very apt to cause constipation In breast fed babies it is best to correct the constipation by proper attention to the mother's diet in order to increase its fat First it is important to secure undisturbed rest for the nurse at night She should be relieved of the care and nursing of the infant during the night and the bottle should be substituted if necessary Fresh air should be obtained in abundance by driving and walking when she is able Thomas of New York considers massage of the breast as one of the most powerful stimulants to the secretion of milk It should be done with great care and gentleness, and every precaution taken against infection A mild antiseptic ointment may be used with the massage, and it should be done two or three times a day for ten minutes at a time The diet should be abundant, with a large amount of milk and meat, especially beef If anemia is present iron should be given If drugs must be used to overcome the difficulty the following are to be recommended

Milk of magnesia	ʒss ʒi	2 4
Or		
Olive oil	ʒi	4
Or		
Sodii phosphate	gr ii	12

Other drugs recommended, but of less value than the above are

Calcined magnesia	gr viii x	50 65
Or		
Aromatic fl ext cascara sagrada	m v xxx	30 2
Or		
Pulv glycyrrhizæ comp	gr x xv	65 1

When only local stimulation of the rectum for defecation is required glycerin, gluten or soap suppositories may be used Enematas of soapsuds and water, or equal parts of water and glycerin are very efficacious to effect temporary relief Large injections of fluid (more than 2 to 4 ounces should be avoided) , they may produce overdistention and paresis In bottle fed infants the first attention should be given to the proper modification of the milk so that the correct percentage of fat obtains The other treatment as outlined above may likewise be used in these cases After six months orange juice may be added to the diet and a little later the juice of stewed prunes Massage of the abdomen in certain cases of obstinate constipation has been a most successful treatment

Work as a Therapeutic Measure

This is the subject of an editorial in the *Boston Medical and Surg Jour* 'Among the many rational therapeutic measures which have been advocated of late years, small attention has been paid to the efficacy of work" Rest, exercise, massage, electricity, hydrotherapy, etc , have been used with much success and enthusiasm by many, both within and without the profession The so called "rest treatment" introduced by Dr Weir Mitchell has been demonstrated beyond doubt to be most successful in appropriate cases It has undoubtedly many times been misused and indiscriminately used and consequently has given its best results in the hands of its founder "In view, however, of all the time and attention which has been given to treatment by so called rational methods, it is somewhat extraordinary that no systematic attempt has been made to systematize a method of treatment which shall have work, either physical or mental, as its fundamental principle Of course physicians are continually advising physical exercise and physical labor, but with the possible exception of Moebius no one has mapped out a work cure in the same systematic fashion as the rest cure " The author considers that invalidism is quite often due to other causes than those for which rest and recreation could work a cure It is a very rare experience to come in contact with a person who is really suffering from overwork The work may be uncongenial, the hours long, and physical strength insufficient to meet the demands It is the author's belief that the lack of suitable employment is rather the source of the various failures which are familiar to every physician If it be true that overwork is rare, and that the moral and physical stimulus which work gives is desirable systematic treatment by work is as rational, as systematic treatment by other means Employment of the mind, as well as the body, is conducive to health, and physicians would accomplish far more definite results if they insisted on the necessity of work with anything like the frequency that they insist on the necessity of rest

Antidiarrhea Mixture

The following formula has been used in certain cases in the King's County (N. Y.) hospitals:

℞	Morphin acetatis	gr. i	.06
	Plumbi acetatis	gr. xii	.75
	Aquæ camphoræ	℥ii	60

M. Sig.: One teaspoonful every three to four hours.

Hemorrhoids

The following formula has found favor in the hospitals of the Department of Charities of New York:

℞	Morphin oleatis	1 part
	Camphoræ	2 parts
	Olei sassafras	4 parts
	Resinæ	8 parts
	Ceratæ flavæ	16 parts
	Adipis benzoated	24 parts

M. Sig.: To be applied on lint.

The foregoing is best compounded by melting the wax, resin, and benzoate lard together by gentle heat, and digesting the camphor in this until it is dissolved. While the mass is cooling and before it solidifies, add the morphin oleate and sassafras oil, and mix thoroughly.

An Inhalant in Respiratory Diseases

℞	Iodin	grs. x-ʒi	.65-4
	Carbon disulph.	℥i	30
	Guaiacol	ʒi	4

M. Sig.: To be used as an inhalation in the various respiratory disorders, including the early tubercular stages, bronchitis, asthma, etc.

Drs. Scovall and Twitty, Columbia, Ala., send the above formula, and say they have been using it in their practice for about seven years, and that the results from its application have been very favorable, so much so that they have come to regard it as a specific in that class of post-grippal coughs which have such a direct tendency toward the tubercular state. The addition of guaiacol is advantageous when not objectionable to the patient. The variable quantity of iodin is due to differences in effects and requirements as regards individual cases. The weaker solution is for catarrh of the upper tract and for nasal inhalation, the stronger in the deeper seated disease and for mouth inhalation. The inhaler must be of glass, its style depending largely on the inspiratory powers of patients. When the lung capacity is good enough the simple tube inhaler with gauze inserted will usually suffice. In other cases the bulb vaporizer will be required.

Medicolegal.

Death from Disease Caused by Wound, Dying Declarations.—The Supreme Court of Alabama holds in Pitt vs. State, that if death resulted immediately from a "bowel trouble," which had been brought on or superinduced by the gunshot wound charged or the amputation of the deceased's leg, rendered necessary by the gunshot wound, the fact that the "bowel trouble" was the cause of death would furnish the accused no protection against a charge of unlawful homicide. It also holds that the fact that the deceased asked that a physician be sent for was not in itself and alone sufficient to affect the admissibility in evidence of his dying declarations, as showing a hope of recovery, it having been shown that he was at the time suffering with severe pain in his bowels, and it being natural that he should want the physician to allay his suffering.

Physicians and Certain Opticians Not Merchants.—The Supreme Court of Iowa says, in City of Waukon vs. Fisk, that a surgeon specialist who treats deformities of the body by the use of straps and braces made according to his measurements would not be classed as a merchant simply because he habitually supplies his patients with the necessary apparatus by orders on the manufacturer, and receives or collects payment therefor. Neither would we so class a physician who receives a commission on prescriptions filled by a pharmacist. Likewise, it holds that a traveling optician who does not carry spectacles or eyeglasses for sale, but examines and tests the eyes of persons applying to him therefor, and writes the description of the glasses required on a "prescription blank," which is mailed to a dealer, in Chicago, who fills the order by grinding and preparing the glasses according to the directions, and sends them direct to the customer, is not a merchant, and can not be subjected to a license tax as one, by a city authorized to define by ordinance who shall be considered transient merchants, to regulate, license and tax their sales. The court says that such an optician's business may not rank professionally with that of a surgeon or physician, but his business bears a close relation to theirs, in that he assumes to diagnose, and, to a certain extent, remedy, a physical defect. His skill and experience in this respect constitute his capital and his "stock in trade," and the fact that he finds his compensation in a profit or commission on the apparatus by which he aids defective sight does not make him a merchant.

Compulsory Vaccination of School Children.—The Supreme Court Commissioners of California say, in French vs. Davidson, that in the case of Abeel vs. Clark, 84 Cal. 226, the title of the "Act to encourage and provide for a general vaccination in the state of California" was shown to be in substantial compliance with the requirements of the constitution, and many authorities were cited illustrating its sufficiency. The uniform operation of the act on a natural class of persons, to wit, school children, was asserted, and its compliance with the constitution in that behalf was declared. That the vaccination act came within the police power of the legislature of the state, and that it was for the public good, was clearly maintained by the opinion. It was also shown that the act in no way impaired any constitutional provision against special legislation. The soundness of that decision has never been questioned so far as the commissioners have been able to ascertain. The case has been frequently cited, and the principle of it approved, both in California and in other states. The legislature, the commissioners go on to say, no doubt was of opinion that the proper place to commence in the attempt to prevent the spread of a contagion was among the young, where they were kept together in considerable numbers in the same room for long hours each day. It needs no argument to show that, when it comes to preventing the spread of contagious diseases, children attending school occupy a natural class by themselves, more liable to contagion, perhaps, than any other class that we can think of. This effort to prevent the spread of contagion in a direction where it might do the most good was for the benefit and protection of all the people, and there is in it no element of class legislation. It in no way interferes with the right of the child to attend school, provided the child complies with its provision. Police regulations generally interfere with the liberty of the citizen in one sense, but it is no valid objection to a police regulation that it prevents a person from doing something that he wants to do, or that he might do if it were not for the regulation. When it has been determined that the act is within the police power of the state, nothing further need be said. The rest is to be left to the discretion of the lawmaking power. It is for that power to say whether vaccination shall be had as to all school children who have not been vaccinated all the time, or whether it shall be resorted to only when smallpox is more than ordinarily prevalent and dangerous. Nor does the fourteenth amendment or any other part of the federal constitution interfere with the power of the state to prescribe regulations to promote the health and general welfare of the people.

Defenses for Charging Insanity of Person Not Insane.—The Supreme Court of California says, in the case of Griswold vs. Griswold, an action by a sister against a brother for charging her with being insane and causing her arrest and imprisonment in the insane ward of the county hospital when she was not insane, that it was incumbent on her to prove both want of probable cause and malice, to recover damages. On the other hand, the brother had the right to prove that he acted in good faith, without malice, and on probable cause, that is, on such facts and information as would induce a reasonably prudent man to believe that his sister was insane. It was not necessary that the statement to and advice of the family physician should have been sufficient to constitute probable cause as a matter of law to make it admissible in evidence He was supposed to be skilled in his profession, and to know more about the mental condition of the sister than any attorney at law could have known If the brother had not consulted the family physician, but had gone to an attorney at law, it would certainly seem that he had much less ground for the prosecution than by pursuing the course he did He was accused of acting maliciously Did it not tend to disprove malice if he went to the family physician and fully and fairly stated the facts? It is the policy of the law to encourage prosecutions when there are facts and circumstances that would induce the belief in the mind of a reasonably cautious man of the guilt of the party accused And so in case a party is insane and dangerous to be at large It would not do to hold honest parties in heavy damages for an error of judgment If so, it would be difficult to get responsible parties to make complaints All that the law requires as a defense to this kind of an action is the existence of such facts and circumstances as would induce the belief in the mind of a reasonably cautious man that the party was insane at the time the charge was made If such facts and circumstances existed, the plaintiff ought not to recover damages Again, the court holds that an instruction was clearly erroneous which told the jury that, it being admitted by the brother in his answer that his sister was not insane at the time he had her arrested, the law presumed that in procuring her arrest he acted without probable cause and maliciously, and the burden of proof was on him to show probable cause and want of malice on his part The court says that the question before the court and jury was not as to the sanity or insanity of the plaintiff at the time of her arrest, but as to whether or not there was probable cause for her arrest, as that term is understood by judges and the legal profession And the burden is always on the plaintiff to show that the suit or proceeding was instituted without probable cause and maliciously Moreover, language which might be construed as holding that malice is legally presumed from want of probable cause should be avoided

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

New York Medical Journal.

September 3

1 *How May the Public School Be Helpful in the Prevention of Tuberculosis? S A Knopf
2 A Study of the Vagus Reflex in 380 Individuals a New Physical and Prognostic Sign in Pulmonary Disease. Thomas J Mays
3 Chronic Splenic Anemia Report and Presentation of a Case P F Conyngham
4 Pruritus Ani A B Cooke
5 Constipation as a Habit Charles B Forsyth
6 *Value of Local Treatment Preparatory to Operation. H C Coe
7 Hypernephroma as a Result of Traumatism Nephrectomy Recovery George Chandler
8 Case of Anophthalmus. Charles Graef
9 Resuscitation from Apparent Drowning Joseph Baum

1 **The Public School and Tuberculosis**—In discussing the subject of how *may* the public school be helpful in the prevention of tuberculosis, Knopf takes up the duties of the school board with reference to choosing a site for a school and the construction of the school, the duties of the superintendent of a public school in arranging the curriculum so as not to overtax the brain and the nervous system of the children, the duties of the school teacher in carrying out the ideas of the superintendent, and those of the school physician in relation to the prevention of tuberculosis He has compiled a set of rules, a copy of which is given to every child who is urged to read them, to take them home, and to show them to their parents

Do not spit except in a spittoon or a piece of cloth or a handkerchief used for that purpose alone On your return home have the cloth burned by your mother or the handkerchief put in water until ready for the wash
Never spit on a slate floor sidewalk, or playground
Do not put pins in your mouth
Do not put your fingers into your mouth
Do not pick your nose or wipe it on your hand or sleeve.
Do not wet your fingers in your mouth when turning the leaves of books
Do not put pencils into your mouth or wet them with your lips
Do not hold money in your mouth
Do not put anything into your mouth except food and drink
Do not swap apple cores candy chewing gum half eaten food, whistles, bean blowers or anything that is put in the mouth
Peel or wash your fruit before eating it.
Never cough or sneeze in a person s face Turn your face to one side and hold your hand or handkerchief before your mouth
Keep your face and hands and finger nails clean, wash your hands with soap and water before each meal
When you don t feel well have cut yourself or have been hurt by others do not be afraid to report to the teacher

A systematic examination of school children, and the supervision of the sanitary condition of the school buildings, are two things that should receive the most careful attention from the school physician Public school sanatoria for the treatment of tuberculous and scrofulous children are an urgent necessity They will serve as places for the cure of tuberculous children, many of whom, without this, will ultimately develop the more severe type of the disease, and will become burdens either to their parents or to the community at large

6—See abstract in The Journal, xlii, p 1585

American Medicine, Philadelphia

September 3.

10 *Meteorologic Conditions in the Causation of Lobar Pneumonia J M Anders
11 Latent Malaria as Seen in the Mountains Lawrence D Holmes
12 On the Significance of Heart Murmur James S McLester
13 Thoracic Empyema W R Jackson
14 Hypertrophy of the Lingual Tonsil J J Richardson
15 The Antiblennorrhagic Drugs in Gonorrheal Urethritis, the Question of Their Value A Nelken
16 Who Is Your Physician? H Winnett Orr

10 **Meteorologic Conditions and Pneumonia.**—Anders has made an extensive study of the relation of meteorologic phenomena to pneumonia and concludes that the seasons exert a marked effect on the prevalence of lobar pneumonia, the maximal mortality being observed during the winter and spring months That insular climates probably manifest the greatest rise in pneumonia mortality in winter, while that of continental climates coincides mainly with spring That the mortality of the epidemic form of the disease is, to a less extent, influenced by the seasons, and may occur in the third or fourth quarter of the year That an apparently close relationship exists between periods of low temperature and the death rate from pneumonia That the mortality rises and falls with the barometric pressure, the maximal level being reached during periods of highest pressure and vice versa, that the barometric pressure, however, is governed by the temperature, being inversely as the latter, is to be recollected That the average velocity of the winds and the death rate from this disease would appear to stand to one another in the relation of cause and effect That the coincidence of existing low temperatures, high barometric pressure, the direction and velocity of the winds and maximum mortality from pneumonia, is so uniformly constant as to merit serious consideration and suggest a close and direct relation between their combined influence and the progress of mortality from pneumonia That the mean relative humidity of the atmosphere shows equally decided variability during the periods of abeyance in the prevalence and fatality of the disease with that of the cold or annual pneumonia season. That the major influence exerted by the seasons, however is probably not direct, but indirect, namely, by bringing about that effective element in the causation, concentration, and increased virulence of the specific poison in consequence of closed doors and windows and lack of free ventilation

Medical News, New York.

September 3

17 Comparative Progress of Medicine and Law W W Goodrich
18 High frequency Currents Their Physiological Action and Methods of Application A D Mable
19 Arthritis Deformans and Its Treatment Louis Kolipinski
20 Paratyphoid a Case of the Hemorrhagic Variety T H Evans
21 *Intestinal Obstruction Following Appendicitis Operations Report of 83 Cases Clarence A McWilliams
22 Case of Ludwig's Angina C M Harris.
23 *Endermol a New Vehicle for Ointments Virgil Coblentz
24 Simple and Accurate Method for Estimation of Sugar in the Urine. Harvey G Beck
25 Present day Treatment of Tuberculosis J W K me.

21. **Intestinal Obstruction Following Appendectomy.**—McWilliams summarizes his paper as follows:

1. The rarity of intestinal obstruction in comparison with the innumerable operations for appendicitis is noteworthy.
2. Obstruction may follow an attack of appendicitis which has not undergone operation. Nine such cases occurred in this series of 86 cases, or 10 per cent.
3. Obstruction may follow the "interval" operation. Eight cases, or 9 per cent, belong to this category.
4. Obstruction is most apt to follow appendicitis with abscess formation. Sixty nine, or 81 per cent, were of this class. Hence the necessity for early operation.
5. Mechanical obstruction may come on within a short time after the appendicitis operation, when the differential diagnosis from that due to peritonitis may present great difficulties. When in doubt, operate, for many patients have undoubtedly died, unoperated on, with an unrecognized mechanical obstruction (with or without peritonitis) where the erroneous diagnosis was made of simple uncomplicated peritonitis.
6. Obstruction may occur years after the original attack or operation (e. g., 10 cases occurred in the second year), when it may come on suddenly in perfect health or preceded by a period with symptoms denoting 'partial' (chronic) occlusion, the right interpretation of which symptoms from a prophylactic standpoint is of the greatest importance.
7. There may be several attacks of true mechanical obstruction. In the above series of 86 cases several attacks occurred in 5, or 8 per cent, of the 57 patients who survived the first operation for obstruction.
8. Of the 86 patients 57, or 66.3 per cent, recovered after operations for obstructions. Twenty nine patients, or 33.7 per cent, died.
9. The small intestine was occluded in all of the 50 cases where it was noted.
10. The cause of the obstruction was given in 53 cases as follows: Constrictions by bands in 28 patients, volvuli in 10, kinkings or angulations in 11, and internal hernias in 4 cases.
11. Gangrenous bowel was encountered in 5 cases necessitating resection, resulting in three recoveries and two deaths.
12. We may expect a much smaller death rate in the future due to the earlier recognition of the symptoms and their more prompt relief by operation. Fecal vomiting should not be waited for.
13. Prophylaxis consists in operating on appendicitis before the formation of pus, the use of as little drainage as possible, and the least possible amount of handling of the intestines at the time of operation.
14. Vigorous abdominal massage with elevation of the hips may avert an impending obstruction. Frequent change in patient's position is likewise recommended.
15. Since the exciting cause is in many cases an attack of acute indigestion, patients should have their diet carefully regulated for from four to six weeks after an attack of appendicitis or after an operation.

23. **Endermol, an Ointment Base.**—This is a combination of stearic acid amide and paraffin hydrocarbons forming an almost white mass of about the consistency of lard, inodorous, of neutral reaction, and fusing at 78 to 80 C. Coblentz says that when exposed to the air and sunlight under adverse conditions, samples of endermol retained their color, consistency and blandness. When applied to the skin by inunction, endermol forms a smooth, soft, unctuous mass, which is readily absorbed. Applications of endermol ointments of iodin and also aconite were followed by the excretion of iodin in the urine after about five hours in the former, and the characteristic dryness of the throat in the latter. There is absolute freedom from any tendency toward rancidity, although as much as 15 per cent. of water may be incorporated. It is pliable, smooth and free from all irritating properties.

Boston Medical and Surgical Journal

September 1

26 *Clinical Topography of Lymph Nodes. F. J. Cotton.
27 Surgery on Old Men. Wm. H. Arthur.
28 *Mental Defectives. Bertha C. Downing.
29 Operations on the Stomach with Report of Cases. (Concluded.) John C. Munro.

26. **Clinical Topography of Lymph Nodes.**—Cotton calls attention to the fact that the lymph nodes are frequent sources of infection, and that we neglect such aid in locating the primary foci as may be obtained by applying our knowledge of the topography of lymph channels. We need to know more of the practical anatomy of the lymphatics. Such knowledge will insure the identification and proper treatment of local foci of infection that might otherwise be overlooked and also assist us in understanding the glandular conditions. More exact attention to and some familiarity with the grouping of glands and their drainage areas will set us right in regard to 1. Many so called "scrofulous" neck glands in children, which show up first in the posterior deep and superficial glands. Sometimes they are tuberculous; in nearly all cases, however, they are septic; in all cases they are traceable to primary scalp irritation, usually from pediculi. Remove the pediculi, make small incisions for the pus, and the great majority will get well promptly without the enucleation now so frequently carried out for these as well as the really tuberculous cases. 2. Buboes of unknown origin, non venereal, lying low in the groin, due to a septic focus on the foot or leg, which is often overlooked by patient and physician. 3. True inguinal buboes, associated with gonorrhea, but almost never due to it, but secondary to some septic process under the prepuce which should be, but rarely is, found. The writer cites 67 cases in confirmation of his theory.

28. **Mental Defectives.**—Downing makes an earnest plea for the examination of every school child by a competent commission, under state supervision, and if found to be mentally defective should at once become a ward of the state for proper training and care. The fact that feeble mindedness often is inherited, supplies a solid foundation on which to base restrictive and preventive measures. Downing examined 3,000 entrance blanks and found tuberculosis to be the chief factor in the generation of idiocy. The exanthematous diseases furnish a rather high percentage of causation of feeble mindedness. Consumption is a more common hereditary cause than are epilepsy and insanity.

Medical Record, New York.

September 3

30 *Arteriosclerosis of the Spinal Cord. Joseph Collins and Edwin G. Zabriskie.
31 *Treatment of Tuberculosis of the Larynx and of the Prostate Gland by the X ray, High frequency Currents and the Cooper Hewitt Light. Sinclair Tousey.
32 Internal Urethrotomy in the Treatment of Stricture of the Membranous Urethra. Charles C. Miller.
33 Alcoholism and Insanity, an Etiological Study. T. D. Crothers.
34 Minus Cylinders. F. W. Higgins.
35 Gastrostomy for Stoppage at the Cardia. H. W. Lincoln.
36 Stomach Reflex and Percussion of the Stomach. Albert Abrams.

30. **Arteriosclerosis of the Spinal Cord.**—The authors describe a case which they believe is typical of arteriosclerosis of the spinal cord, a condition which, though much less common than cerebral arteriosclerosis, yet is worthy of careful study. The patient, a fireman, 51 years old, complained of the following symptoms in the order of their development: (1) Weakness and easily induced fatigue of the legs, (2) peculiar sensations in the lower extremities, described as "jerky," "numbness," "heavy" and occasionally sharp pain; (3) Progressive incontinence of urine, (4) progressive paraplegia. Aside from the fact that the tendon jerks were absent and that the Babinski phenomenon was present, the objective symptoms were those usually found in chronic transverse lesions of the cord, namely, slight disorder of sensibility, paraplegia, and trophic manifestations. The cause of death apparently was cardiac weakness. An autopsy was permitted, and the brain and cord were removed. The naked eye appearance of both was normal. In dividing the cord into different segments several areas in the lower dorsal segments were seen to contain small hemorrhages in the posterior horns on the right side and a similar condition in the left anterior horn. Microscopically, the arteries and veins everywhere throughout the cord and brain were sclerotic. Spinal arteriosclerosis is a condition that permits of being diagnosticated with considerable readiness, especially if there are symptoms, subjective or objective, pointing to generalized arterial sclerosis.

31. **The X-Ray in Tuberculosis.**—Tousey is of the opinion that judicious application of the *x* ray or of the ultra violet ray and high frequency currents is indicated in every case of tuberculosis, especially tuberculosis of the larynx. One case in point is reported in which the treatment was remarkably successful. The expectoration ceased inside of three weeks, there was great improvement in the voice, marked gain in strength, normal temperature, and a gain in body weight of about two pounds. The local condition also has improved, the area of infiltration has diminished, the abrasions have healed with a whitish appearance which may be due to cicatricial tissue. The treatment consisted, first, in exposure to the *x* ray once every four or five days, exposure to the Cooper Hewitt light and application of high frequency currents once in each interval between the *x* ray applications. In applying the

x ray he used an eight inch Wappler coil, run by the street current (110 volts direct current), using a liquid interrupter This consists of a beaker of tough porcelain with three or four pinholes near the bottom, this is set in a large jar full of dilute sulphuric acid, and a lead plate connected with one wire dips into the acid outside, while a lead ring from the other wire dips into the acid outside of the beaker When the current is turned on electrolysis takes place in the dilute acid through which the current has to pass, and the resulting bubbles of hydrogen and oxygen gas block up the pinholes and interrupt the current The current ceasing, the bubbles of gas escape and the current recommences A special application was made to the larynx by means of a specially constructed *x* ray tube. The tube is held close to the outside of the larynx, and directs the rays through the exact tissue we wish to influence, and requires no shield of any kind In the treatment of tuberculosis of the prostate and bladder, the author allowed the light from an ordinary *x* ray tube to shine obliquely downward through the lower portion of the abdomen and also, occasionally, through the perineum Each application lasts about five minutes Alternating with this perineal application a special *x* ray tube was introduced into the rectum The other portion of the treatment consists in the application of high frequency currents over the lower portion of the abdomen, and in the rectum on occasions when the intra rectal *x* ray tube is not used. For the intra rectal applications of high frequency currents a special vacuum electrode is employed in which the tube is insulated except for its distal two or three inches by a separate external cylinder of glass In this way all the effect reaches the interior of the rectum The application lasts five minutes His results have been excellent

Cincinnati Lancet Clinic

September 3

37 The proper Attitude of the Medical Profession as Such to Existing Political Parties Henry Beates Jr
38 Nephritis Water—Diet—Drugs. Irvin Lindenberger

American Journal of the Medical Sciences, Philadelphia

September

39 Aphasia and the Cerebral Zone of Speech Charles K Mills
40 Traumatic Hemorrhage Over the Third Anterior Frontal Convolution Operation Recovery Present Status of Brain Surgery William C Krauss
41 The Adams Stokes Symptom Complex with Report of a Case Clarence Quinan
42 *Borated Food as the Cause of Lesions of the Kidney Charles Harrington
43 *Inhalation of Gasolene Vapors Torald Sollmann
44 Case of Suture of the Heart with Recovery Francis T Stewart.
45 Treatment of Penetrating Wounds of the Heart John H Gibbon
46 *Medical and Surgical Considerations in Pyopericarditis with Reports of Cases J A Scott and Robert G LeConte
47 Pericarditis Its Symptoms and Diagnosis Davis Riesman
48 Two Cases of Paracentesis of the Pericardium John B Roberts.
49 *Cancer of the Pancreas and Glycosuria Richard M. Pearce
50 Ascarides in the Bile Ducts Simulating Gallstone Seizures A M. Pond.
51 *Acute Primary Cholecystitis, with Report of Four Cases John G Sheldon
52 Varieties of Splenic Anemia Alfred Stengel

42 **Borated Food and Nephritis**—Harrington says that the two most commonly employed chemical preservatives of food are borax and boric acid They are used so extensively that persons of all ages are likely to receive frequent, if not daily, doses of one or of the other or of both They are added to milk, butter, oleomargarin, some forms of cheese they are almost always present in opened clams and oysters, they are applied externally to fresh meats to prevent sliminess and to freshen salted fish They are important constituents of the brine in which meats are pickled and corned Their solutions are injected into ham and other pork products, and they are found in almost every known make of sausages, to prevent the sausage contents from contracting and thus causing the casing to appear loose and wrinkled Moreover, they preserve the natural color Once established in the tissues borax can not be soaked out not even boiled out The author points out that many cases of slight kidney disturbance may be due to the continued ingestion of the boron compound Experiments have been performed from time to time with a view to establishing the relationship between these food preservatives and kidney lesions Unfortunately, most of these experiments extended over too short a period of time to lend any weight to the results obtained Harrington submits the details and results of a feeding experiment which he conducted for a period of nineteen weeks Twelve healthy male cats were selected and kept under precisely the same conditions in separate cages All were fed on the same food with this difference One received no preservative, six received borax from 48 to 112 grams in daily doses extending over a period of from 50 to 133 days The average minimum dose was 544, the average maximum dose 857, the remaining five cats received another preservative which proved to be innocuous Of the dozen animals under observation but three showed any sign of illness and they were of the borax group One died at the end of the sixth week the other two were sick occasionally, but during the last weeks of the experiment appeared to be normally active Each cat was weighed at the end of each week, all showed occasional losses, but with the exception of the one that died there was a net gain ranging from 230 to 900 grams When the animals were killed a careful autopsy was made and all the tissues were examined microscopically The control animal showed no lesions whatever The animals that were fed on borated food all showed kidney lesions and changes in the liver The five cats that were given another preservative showed no marked changes in the kidneys or elsewhere The kidney lesions of the cats fed on borated food were of the same general character, but differing in intensity They consisted in degeneration of the tubular epithelium, most marked in the convoluted tubes The normal fat vacuolation was greatly increased and there was focal swelling and disintegration of epithelial cells, with fragmentation of nuclei The lumen of many of the collecting tubes contained irregular granular masses representing cell fragments Some tubules were completely stripped of epithelium In one kidney the change was confined entirely to degeneration of an intense character, with hyaline casts in the small tubes In other cases the degeneration was not so intense, but was accompanied by foci of cellular infiltration, most marked at the cortex, and also around single glomeruli Where this was most intense the tubules were entirely destroyed The lesions were analogous to those found in subacute and chronic nephritis in man, although they do not conform to any type

43 **Inhalation of Gasoline Vapors.**—Some years ago Sollmann began an investigation of the effects of gasoline vapors with a view to finding a cheap anesthetic for laboratory work The results were not practical, hence their publication was delayed The renewed interest in the subject aroused by the employment of petroleum ether in Schleich's inhalation mixture is the reason for publishing at this time a brief summary of his work In most of his experiments he employed commercial gasoline and in the others he used a pure sample of petroleum ether The effects were identical The experiments were confined to dogs and frogs and the following mixtures were used Pure gasoline, gasoline 1 to alcohol 8, gasoline 1 to alcohol 5 gasoline 1 to alcohol 3, pure gasoline preceded by an injection of half a dose of morphin He summarizes his results as follows Gasoline (or petroleum ether) when inhaled has a comparatively slight anesthetic action However, the anesthesia is very dangerous, since gasoline also causes convulsions weakening of the heart, vasomotor depression, paralysis of respiration and irritation of the kidneys The effects are produced very promptly, but recovery under artificial respiration is also prompt

46 **Pyopericarditis.**—The medical aspects of pyopericarditis are described in detail by Scott who also reports four cases LeConte presents the surgical side, and the authors summarize their paper as follows 1 Purulent pericarditis is quite frequently overlooked in lobar pneumonia and in other pyemic states 2 Its presence modifies pre existing disease to a considerable extent 3 In diseases with high temperature the presence of purulent pericarditis depresses the fever range and increases the respiratory and pulse rate without sufficient clinical evidence of trouble elsewhere than in the pericardium 4 It is yet to be proved that the heart in case effusion is

medicine The evacuants and proper feeding are valuable In the third class of cases the most important feature in the treatment in addition to the ordinary treatment of delirium tremens is stimulation These patients must have stimulation early, and the stimulant par excellence is alcohol Digitalis is used when the pulse is weak, feeble and rapid, and the delirium undergoes a corresponding change—that is, becomes asthenic in character Collins believes that sedatives are used too often and too indiscriminately The greatest care should be taken in the application of mechanical restraint lest the encroachment on respiratory mechanism lead to supplemental complication and jeopardize the life of the patient There will rarely be any necessity for mechanical restraint in any case of delirium tremens if the indications above outlined are followed

Richmond Journal of Practice

July

78 The Treatment of Prostatic Hypertrophy Lewis C Bosher
79 Wet Dressings Southgate Leigh

Physician and Surgeon, Detroit and Ann Arbor

August

80 Two Cases of Accessory Pancreas (Omentum and Stomach) Aldred Scott Warthin
81 Electric Currents in the Treatment of Disease Arthur F Fischer

Kansas City Medical Record

August

82 Functional Nervous Disorders T C Bulware
83 Leukemia M P Overholser

American Practitioner and News, Louisville, Ky

August

84 Case of Abscess of the Brain Following Acute Suppurative Otitis Media with Remarks Isaac Lederman
85 Chronic Gastritis John J Moren

Southern Medicine and Surgery, Chattanooga

August

86 Treatment of Prostatic Hypertrophy Lewis C Bosher
87 Medicinal Treatment of Pneumonia E G Wood
88 Case of Acute Yellow Atrophy of the Liver Complicating Appendicitis Lewis C Bosher

Western Medical Review, Lincoln

August

89 The Diagnosis and Treatment of Early Tabes H Douglas Singer
90 Clinical Laboratory Methods of Diagnosis H H Waite
91 Pain as a Diagnostic Factor in Cholecystitis and Cholelithiasis A F Jonas
92 Notes of a Few Surgical Cases A B Anderson
93 Diagnosis and Treatment of Stricture of the Urethra A C Stokes

Journal of Medicine and Science, Portland, Maine

August

94 A Few Points on Eczema R W Bucknam
95 Recent Discoveries in Some Medical Specialties Baron Munchausen

Alienist and Neurologist, St Louis

August

96 Forensic Aspect of Double Suicide James G Kiernan
97 Outlines of Psychiatry in Clinical Lectures (To be continued) C Wernicke
98 Quarter and Semi Decade Treatment and Curability of Epilepsia C H Hughes
99 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-Ethics (To be continued) James G Kiernan
100 Morbid Exhibitionism C H Hughes
101 A Psychologic Incident in the Court Room T D Crothers
102 The Erratic Erotic Princess Chimay, A Psychologic Analysis C H Hughes

Medical Sentinel, Portland, Ore

August

103 Address Washington State Medical Society F H Coe
104 Laboratory Committee King County Medical Society Kenelm Winslow and J E Sweeney

The Laryngoscope, St Louis

August

105 Malignant Growths of the Nose and Nasal Pharynx Frederic C Cobb
106 Malignant Growths of the Mouth and Pharynx M A Goldstein
107 Primary Malignant Disease of the Larynx Chevalier Jackson
108 Brief Discussion of the Pathology of Malignant Growths of the Upper Air Passages D Braden Kyle
109 Paraffin as a Cosmetic Remedy M Delmar Ritchie
110 Four Unusual Tumors in the Nasopharynx Walter F Chappell
111 Pedunculated Bony Tumor of the Nasal Septum John D Richards
112 A Valuable Adjunct (Method of Keeping Spray Solution at Even Temperature F S Galley

Pacific Medical Journal, San Francisco

August

113 Our Knowledge of the Therapy of Gonorrhea as It Stands To-Day Louis Gross
114 Medical Profession Its Politics and Politicians B M Jackson

Old Dominion Journal, Richmond, Va

August

115 The Treatment of Prostatic Hypertrophy Lewis C Bosher
116 Prevention of Tuberculosis Henry W Cook
117 Some Remarks on the Diagnosis of Typhoid Fever Greer Laughman

Southern California Practitioner, Los Angeles

August

118 Diagnosis and Prognosis of Common Diseases of the Chest George L Cole
119 Reports of Mastoid Cases H Bert Ellis
120 Earache Frank W Miller
121 Eucalyptus Oil Its Therapeutic Value Edward G Binz
122 The Trained Nurse and the Larger Life Norman Bridge
123 Anterior Uveitis Its Early Diagnosis and Treatment Samuel Outwater
124 Report of Out Patient Obstetrical Department College of Medicine University of Southern California Titian Coffey

Wisconsin Medical Journal, Milwaukee

August

125 Surgical Treatment of Dyspepsia Roswell Park
126 Clinical Course and Diagnosis of Arteriosclerosis Alfred Stengel
127 Indications for Enterotomy in Some Forms of Intestinal Obstruction with a Report of Cases G F Shimonek

Medical Bulletin, Philadelphia

August

128 Epilepsy John V Shoemaker
129 Bright's Disease Renal and Vesical Calculi and a New Aphrodisiac John A Cutter
130 Tuberculous Pleurisy in the Course of Typhoid Fever E Mosny and O Beufume

Iowa Medical Journal, Des Moines

August 15

131 Pneumonia Consideration of Its Treatment Based on the Conception of Its Morbid Changes Walter L Bierring
132 Professional Courtesies L W Littig
133 Adenoids Their Diagnosis and Treatment. Harold Bailey
134 Alopecia Symptomatica Following Scarlet Fever W G Little

Nashville Journal of Medicine and Surgery

July

135 Pseudo-Leukemia Frank Swope
136 Report of a Case of Concurrent Ectopic and Uterine Pregnancy Pruritus Uteri (?) with a Report of a Case F J Runyan

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

British Medical Journal, London

August 27

1 Discussion on the Control of the Milk Supply
2 Discussion on Poverty and Public Health
3 The Teaching of Hygiene in Public Elementary Schools and the Influence on the Public Health of the Infants Departments of Such Schools W Naylor Barlow
4 School Diphtheria in the Metropolis C J Thomas
5 *A Plea for Oral Hygiene K W Goadby
6 *The Segregation of Tuberculous Patients Among Factory Workers C W J Brasher

5 **Oral Hygiene**—Goadby believes that the far reaching and widespread effects of the ravages of oral sepsis as a factor in disease are by no means always attributed to their proper cause Among children, in particular, chronic inflammation of the mouth should be regarded with the utmost suspicion as a mode of hibernation of infectious diseases Among children we find impaired nutrition, and with it impaired growth, with this, again badly developed maxillæ, thus completing the vicious circle Among diseases associated with oral sepsis are the following 1 Chronic infection of the lymphatic glands of the neck by septic mouth lesions 2 Anemia and lowering of the resistance of the gastric mucous membrane by the swallowing of staphylococci which are present constantly in suppurating gums 3 Impaired nutrition due to inefficient mastication owing to carious teeth The persons who require treatment fall into three classes 1 Children in schools and children before they reach the school age 2 Young adults, such as the domestic servant, shop assistants, etc, who, generally, are unable to pay for services 3 The general mass of the working class population many of whom can afford small payments For children under the school age efficient cleansing of

the teeth is all that is required In order to take care of the teeth of school children properly the author favors the appointment of dental surgeons, whose work should consist of 1 Periodical inspection once in three months, at least, of the children at the schools 2 The treatment of dental caries and conditions of oral disease at some central place to which the children could be sent. 3 The superintendence of the periodical cleansing of the mouths of all the younger children by an intelligent assistant, under the supervision of the dental surgeon For the cure of the second and third class Goadby suggests the following 1 The appointment of dental clinical assistants, at a salary, by the various dental hospitals 2 That a nominal payment be made by the patients to cover the working expenses 3 Only the treatment of dental caries and of oral sepsis be allowed 4 The clinical assistants should be under the jurisdiction of the hospital staff In this manner oral cleanliness can be given the attention it deserves, and much harm averted

6 **Tuberculous Factory Workers**—Brasher describes the method of procedure at a large factory in Bristol having in view the segregation of tuberculous patients Applicants for work are examined as for life insurance particular attention being paid to the condition of the lungs and heart. Those having very unhealthy tonsils or suffering from adenoids are required to submit to operation before being admitted to the factory The superintendents are instructed to report any evidence of failing health in any employe All girls suffering from phthisis are suspended from work and put on the "sick fund" Until they can be sent to a sanatorium they are treated at home or at the factories, and are instructed as to proper diet, ventilation, rest and other details of the "open air treatment" Patients who have suffered from phthisis are not encouraged to return to the factories after apparent cure, but rather to seek some outdoor employment and are assisted as far as possible to obtain such Patients with tuberculous lymphadenitis or peritonitis are allowed to resume work if cured but no phthisical patient would be allowed to return to work until repeated examinations of the sputum had given uniformly negative results The results obtained have been excellent, such as warrant the institution of similar methods in all factories employing much help

The Lancet, London

August 27

7 *The Serum Treatment of Exophthalmic Goiter George R Murray
8 The Radical Cure of Patent Urachus B C Stevens
9 A Case of Acute Diabetes Insipidus with Fatal Coma Alfred H Carter
10 Meningeal Infection by the Diplococcus Pneumoniæ Simulating Infective Cerebrospinal Meningitis W G Barras
11 *Hemorrhagic Smallpox. Charles Fraser
12 Formaldehyd in Milk W Scott Tebb
13 Two Cases of Poisoning by Mussels—One Fatal R Rolfe.
14 A New Pathogenic Bacterium Causing Basal Meningitis in Infants W D Emery

7 **Serum Treatment of Exophthalmic Goiter**—Murray prepared an antitoxic serum to be used in the treatment of exophthalmic goiter by injecting rabbits with from five to ten minims of liquor thyroidei daily for a period of about five weeks After thorough coagulation of the collected blood the serum was decanted into small sterilized glass bottles 0 2 per cent carbolic acid was added, and the glass stoppers were sealed with paraffin Two cases were treated with this serum, the dose varying from 5 to 10 minims, given three times a day Although the condition of both patients improved considerably the subjective symptoms being diminished in severity Murray is inclined to ascribe this improvement to the rest in bed and not to the serum He believes it quite possible that if larger animals were employed—he used rabbits—and larger doses of thyroid extract given, a serum might be obtained which could be used for hypodermic injection in acute cases, or for administration by the mouth in chronic cases, where prolonged treatment would be required

11 **Hemorrhagic Smallpox.**—Fraser calls attention to the variation in the number of cases of hemorrhagic smallpox in different epidemics and presents a clinical note of 36 cases He recognizes three types of hemorrhagic smallpox 1 Characterized by the appearance during the initial stage of the disease of hemorrhagic changes in the skin and visible mucous membranes, resulting in the production of petechiæ and ecchymoses, the patient almost invariably dying before the characteristic smallpox eruption has had time to declare itself 2 Cases in which the hemorrhagic element involves not only the region of the pock but areas free from eruption 3 Cases in which the area of the pock alone is involved A review of Fraser's report brings out one or two prominent points In the first place, the unvaccinated person suffering from smallpox appears to be more liable to this type of the disease than the vaccinated In his cases 3 3 per cent of unvaccinated persons suffered from the hemorrhagic type, as against 3 1 per cent of the vaccinated Only 3 out of his series of 36 cases were under 10 years Out of a total of 1,200 treated at the Dagenham Hospital during the epidemic of 1902—from which Fraser takes his 36 cases of hemorrhagic smallpox—198 persons were under 10, practically all of them being unvaccinated, 1 5 per cent of these suffered from the hemorrhagic variety as against 3 3 per cent of all cases over that age Men were more frequently affected than women, in the proportion of 20 to 16 Fraser directs attention to an interesting fact the voraciousness of the patient's appetite and his ability to retain and utilize nourishment In a few cases gastric derangement with vomiting was prominent, and even in these cases the patients displayed an anxiety for food which they were unable to retain This seemed to be a characteristic of smallpox patients in general, the increased gravity of the hemorrhagic type did not appear to diminish the desire for nutriment

Glasgow Medical Journal

August

15 *Case of Chronic Lymphatic Leukemia John W Findlay
16 Intraperitoneal Hemorrhage and Hematocele Arising from Tubal Abortion or Rupture, with Records of Illustrative Cases G Balfour Marshall

15 **Chronic Lymphatic Leukemia.**—Findlay reports a case of this kind occurring in a man aged 60 who complained of weakness and breathlessness of sixteen years' duration, and of pallor and of enlargement of the lymphatic glands of two years' duration There was a well defined history of syphilis contracted over forty years ago, but until two years ago the symptoms of the present trouble were not very marked, except the weakness and breathlessness The patient first noticed lumps under his chin, which increased steadily in size for two or three weeks, after which they got smaller until they became little larger than haricot beans Next the glands on both sides of the neck swelled then the glands in the left axilla followed by those in the right All these glands first became large and then small and hard Edema of the face and eyelids, feet and legs has existed for about one year There have never been any fainting fits or attacks of giddiness and palpitation The dyspnea became so bad as to confine the patient to the house For several months there was pain and tenderness over the lower half of the sternum The appetite has been good throughout and gastric and intestinal disturbances have been completely absent Repeated blood examinations showed a marked falling off in the number of red cells as low as 1,175,000 and a leucocytosis of 152 500 The increase in the white cells was confined solely to the small lymphocytes which equaled 95 per cent of the total number The polymorphonuclear neutrophiles fell to 2 5 per cent All the other white cells had fallen below the normal percentage The hemoglobin fell to 25 5 per cent All the glands are freely movable under the skin, no very large glandular masses were seen, the glands were all soft though not at all of that softness which suggests fluctuation The tonsils were not enlarged nor was there any excess of lymphoid tissue about the base of the tongue Thyroid is normal Examination of the heart and abdominal organs did not show anything markedly abnormal The case, beyond a doubt, was one of chronic lymphatic leukemia A slight improvement in the general condition of the patient followed the use of Fowler's solution, 15 minims per diem, the red corpuscles and hemoglobin percentage have increased slightly but the leucocytosis has become much worse

Medical Press and Circular, London

August 17

17 The Study of Bionomics in Relation to the Diminishing Birth Rate W R MacDermott
18 Acetozone a Note on Its Value as an Antiseptic and Germicide James Burnet
19 Case of Suppurative Knee-joint A R Brackett
20 *Thyroid Grafting in Human Beings H Christiani

20 **Thyroid Grafting**—Christiani continues his study of homo thyroid grafting He made use of three classes of thyroid 1, normal thyroid substance, 2, slightly altered substance, 3, manifestly altered The recipient organisms were normal in one case, apparently normal in the second, and distinctly diseased in the third case By combining these different elements the grafts paved the way to the following eventualities 1, graft of normal thyroid substance in a normal organism, 2, graft of thyroid tissue manifestly altered in a normal organism, 3, graft of thyroid tissue apparently but slightly altered in an apparently normal organism, 4, graft of normal thyroid tissue in an organism clearly diseased, 5, graft of manifestly diseased thyroid tissue in a manifestly diseased organism, and, 6, graft of slightly changed thyroid tissue in a manifestly diseased organism Some of these tissues were removed in from six to fifteen months after their implantation and subjected to microscopic examination, from which the author concludes that thyroid grafts are possible in man, and that by this means we can obtain permanent neo thyroid glands The results from an anatomic point of view are excellent, provided normal gland be employed They are positive even when moderately changed gland substance is employed, as in cases of slight goitrous degeneration They are negative, on the other hand when an obviously diseased gland is used Further observation will be required to establish within what limits goitrous tissue may be employed with this object in view From a clinical point of view it may be concluded that the preventive thyroid graft that is to say, a graft made in cases where after too radical extirpation of the organ, the subject is threatened with cachexia strumipriva may avert the impending manifestations In idiopathic myxedematous hyperthyroidea grafts are equally apt to develop and persist, provided always that the tissues employed have not undergone too marked changes Since experiments on animals show that the thyroid organ, when it persists with its normal histologic characters is perfectly capable of fulfilling the function, there is no obvious reason to question the probability of a similar result when it persists in man With the object of avoiding the immediate transplantation of the organ from the donor to the recipient Christiani investigated the preservation of thyroid tissue in various liquids and, so far as they go, these researches tend to show that this preservation at any rate in respect to the thyroid of the rat and the rabbit is possible in artificial serum and in the blood serum of certain animals, but only for a comparatively short period of time (rather under an hour instead of ten seconds in the air) The author is carrying on another set of experiments having in view a simplification of the implantation of the thyroid tissue Thyroid tissue, reduced into very small fragments by the aid of a sharp knife and with every precaution to avoid crushing, which would destroy its vitality, may be emulsified in the preservative liquid and injected into the selected organism through a trochar or large hollow needle These experiments, which are still in progress, have not as yet given results sufficiently conclusive to warrant the formation of definite conclusions Thyroid grafting probably never will take the place of thyroid medication Not only does the latter method of treatment remain indicated in cases where grafting is impracticable but it may be required as a preliminary step to grafting in order to prepare the soil in the presence of grave disturbances of nutrition and, indirectly, to assist in the development of the transplanted thyroid tissue by avoiding the risks inherent to too early and exaggerated functional demands

Revue de Chirurgie, Paris.

Last indexed page 228

21 (XXIV No 7) *Evolution anatomique des fractures mobilisées dans le but de provoquer des pseudarthroses Rôle des muscles dans la consolidation des fractures et dans les pseudarthroses V Cornil and P Coudray
22 *Des ostéomes de l intestin E Quénu
23 *De la perforation des ulcères de la petite courbature (perforations hautes high gastric ulcers) F Villard and L Pinatelle (Lyons) (Commenced in No 5)
24 (No 8) *Du traitement des fractures récentes fermées par l'agrafage métallique (wire fixation of recent, uncomplicated fractures) C Dujarier
25 *Bactériologie de l'appendicite O Lanz (Amsterdam) and E Tavel (Berne) (Commenced in No 7)
26 *Leucocyte Curve in Surgical Affections C Julliard (Geneva) —De la valeur clinique de la courbe leucocytaire dans les maladies chirurgicales et en particulier dans l'appendicite Etat de la question (Commenced in No 5)

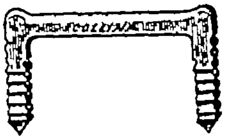
21 **Consolidation of Mobilized Fractures**—The extensive experimental research described demonstrates that daily displacement of the fractured stumps does not prevent consolidation It may be retarded and the callus may be unduly large and misshapen, but the consolidation is very firm The mobilization was much more vigorous than in therapeutic massage and mobilization When a pseudarthrosis forms it is due more frequently than generally supposed to interposition of a fragment of muscle In other cases it is due to the *chevauchement* of the fractured bones A rarefying osteitis may be incriminated in certain cases, and in others a fatty rarefaction of the bone Syphilis is the only general cause known to date, but certain local causes may co operate, among them the interposition of a scrap of bone, effusion of blood or suppuration

22 **Osteomata of the Intestine**—Quénu had occasion to operate on a patient exhibiting symptoms of constriction of the small intestine The stricture was caused by patches of bone formation, the only case on record, to his knowledge of such ossification, neoplasia and consequent stricture formation He gives eight views of the resected portion of the intestine and cites the experience of veterinarians with osteomata in the intestines of horses An osteoma may exist without any other alteration in the intestinal walls In the case described the first clinical sign of its presence was colic pains, very severe Colics from this cause may terminate in rupture of the intestine The osteoma may be associated probably secondarily with a vegetating adenoma of the intestinal mucosa and form a tumor entailing obstruction of the gut The osteoma is also liable to induce ulcerative lesions in the intestinal mucosa (with or without a true neoplasm according to the interpretation placed on the specimens illustrated) entailing in time a tight cicatricial stricture of the small intestine

23 **Perforation of Ulcers in the Lesser Curvature**—Villard and Pinatelle remark that in the surgical treatment of perforated gastric ulcer too little attention has been paid hitherto to the site of the ulcer as an indication for the mode of intervention In 2 cases they found it impossible to expose and suture the perforation on account of its location high up on the lesser curvature They proceeded therefore, to wall off the perforation by throwing up a barrier below This was accomplished by suturing the anterior aspect of the stomach at the middle to the anterior wall of the abdomen This formed two separate pockets The upper pocket included the perforation and the focus of perigastritis It was drained The lower pocket corresponded to the large abdominal cavity In the 350 cases of perforation of a gastric ulcer on record 115 are mentioned as being on the lesser curvature or cardia, that is on the upper and less movable part of the stomach Perforation occurs in only about one third of these "high" ulcers This comparative infrequency of perforation is due to the high protected site, its immovability and frequent existence of adhesions These adhesions limit the peritoneal infection and impress certain characteristics on it, peculiar to the region when it does occur Clinically the persistence of vomiting is a constant sign, antecedents of an ulcer are found more frequently, and the symptoms assume a subacute course or recur in successive exacerbations These clinical findings suggest that it may be better to operate in a preventive sense whenever a patch of perigastritis develops rapidly accompanied by indications of a reaction on the part of the peritoneum The intervention should be the walling off of the patch with gauze supplemented by gastroenterostomy After perforation has occurred a laparotomy should be done at once and the per

foration be sutured, if possible If not, owing to peripheral adhesions or friability of the edges of the perforation, the intervention may have to be restricted to walling off the perforation The protecting adhesions should always be respected In case of extreme friability or extent of the lesion, sutures may be applied at a distance or the perforation may be sutured to the skin or to the omentum, or all three methods may be combined, walling off the site with gauze The bibliography to the end of 1902 is reviewed

24 **Clamp Fixation of Recent, Uncomplicated Fractures**—Dujarier describes 4 cases with a number of illustrations, in which the usual measures for treatment of a recent fracture proved ineffectual Radioscopy showed malposition of the parts, and there was pain and ulceration was feared Under these circumstances an incision was made down to the bone and a couple of two metal clamps, like double headed tacks, were driven into the shaft of the bone to hold the stumps in place after reduction The holes were drilled for the clamp to the exact size and depth of the legs of the clamp and it was driven into place with light blows on the alternate legs, using a light steel hammer with a tapering head and a nail set to insure that the blows fell axial to the points of the clamp and without danger of injury to the soft parts The results in the 4 cases showed that when the clamps are driven in a bone covered with thick soft parts, such as the radius or femur, they remain solidly implanted with no tendency to work loose In a superficial bone they are exposed to this tendency In one of his patients the fracture of the tibia consolidated in less than a month, but the patient returned after a certain time with signs of fistula formation over the callus The clamps were removed without anesthesia and there has been no disturbance since A second patient complained of slight discomfort at the point where the tibia had been fractured and the clamps applied They were removed as a prophylactic measure, fearing that they might work loose later They were found so solidly implanted however that some injury was done to the bone in removing them No attempt should be made to remove them until they give signs of being loose In other cases they healed perfectly in place and insured ideal consolidation of the femur and radius, with perfect functional results, after failure of the ordinary measures The indications for their application may be deduced from the results observed in these 4 cases The age, general health occupation, etc should be considered in determining the indications for the use of the clamps or agrafes as the French call them The latest approved model is shown herewith The side toward the bone is flat and the clamp is made extra thick at the bend to straighten this the weakest point



25 **Bacteriology of Appendicitis**—Lanz and Tavel's communication is based on the bacteriologic study and clinical description of 130 cases of appendicitis Their findings indicate that the normal appendix presents the same microbian flora as the large intestine In case of inflammation leucocytes are attracted to the spot with active phagocytosis, with the result that the pathologic appendix was found sterile in 10 per cent. of the cases (mostly examined *à froid*), while the normal appendix was never found sterile

26 **Leucocyte Curve in Surgical Affections.**—Julliard concludes his comprehensive study of this subject and its literature with the statement that the leucocyte curve is a valuable diagnostic aid in appendicitis, peritonitis, and all affections in which there is suppuration not accessible to exploration It is destined to increase in importance in comparison with the ordinary diagnostic measures consecrated by long experience but which sometimes prove indecisive It is certainly as valuable a sign as the temperature, if not more so In many instances in which the temperature was indecisive the leucocyte curve supplied the missing information The few cases which give paradoxical findings according to our present knowledge may possibly be explained some day, and they should not induce us to disregard such a precious symptomatic element as the leucocyte curve It should be determined in every case of appendicitis in which the surgeon is not absolutely sure whether the case is tending toward aggravation or improvement of the infectious process In such dubious cases the leucocyte curve may prove extremely valuable, both for the diagnosis, prognosis and treatment. In non suppurative appendicitis the leucocyte curve approximates the normal (9,000) or ranges between normal and the lower limit of suppuration, that is, between 10,000 and 25,000 There may be considerable rise at first, but it is briefly transient Suppuration sends the curve above 25,000 for two or three days, and purulent peritonitis causes it to remain high unless the resisting powers are enfeebled When the leucocyte curve remains above 25 000 it indicates suppuration, and this testimony should be given the predominance over that of other, possibly conflicting symptoms The leucocyte curve enables a suppurative appendicitis to be differentiated from typhoid fever, from a non inflammatory tumor of the cecum or fecal stasis therein In the first case it is high in the others it persists normal The absence of a high leucocyte curve, however does not preclude the existence of suppuration, as, in exceptional cases there may be suppuration without hyperleucocytosis Julliard reviews the leucocyte findings in a number of other surgical affections Perirenal abscesses cause a leucocytosis of 12 000 to 25 000, and may thus be differentiated from a cold abscess or tuberculous process Abscesses in the liver send the leucocyte curve higher than any other purulent collection in the organism The leucocytes may number 45 000 to 90 000 In peritonitis a leucocytosis over 25,000 for two or three days is presumptive evidence of pus formation In septicemia the general infection sends the leucocytes up to 37,000 or even 57,800 in some cases and the curve is a valuable means of information in regard to the evolution of the infectious process and the resistance offered by the organism One case of septic meningitis has been reported in which the leucocytes numbered 20 000, while in a tuberculous meningitis they numbered merely 6 000 to 8 000 although the temperature was high Abscesses at the periphery cause much less leucocytosis than deep seated abscess formation In erysipelas the leucocyte findings are frequently absolutely opposite to the temperature findings The leucocytosis increases with the progress of the affection Wassermann observed one case in which the leucocytes increased from 9 600 to 30 500 without any rise in temperature, although terminating fatally The leucocyte findings seem to be contradictory in case of malignant disease, although extensive ulceration is generally accompanied by an increase Another point generally admitted is that the leucocyte curve rises when there is generalization of a primary neoplasm When the metastasis occurs in the bone marrow, myelocytes are usually encountered in the blood In case of ulcer and cancer of the stomach the leucocytosis of digestion may afford diagnostic information In case of cancer there is no leucocytosis of digestion, while it can be noticed in case of round ulcer The leucocytosis of digestion should always be examined before surgical intervention on the stomach in order to determine the condition of the mucosa and the possibility of its functioning Hence the normal condition of the blood in case of a duly diagnosed cancer of the stomach may impel to early intervention. There does not seem to be any parallel between the leucocytosis and the temperature They are not symptoms which can be substituted one for the other, but, on the contrary, they complete and throw light on each other Their nature and final causes are not necessarily identical The leucocyte curve varies more sensitively than the temperature curve The fluctuations of the morbid process are frequently reflected in the leucocyte curve long before they are manifest in the temperature

Münchener medicinische Wochenschrift.

27 (LI, No 31) *Cause of Colic. Wilms.—Die Ursache der Kolikschmerzen bei Darmleiden Gallensteinen und Nierensteinen

28 *Studien über die Temperatur erkrankter und hyperämisierter Gelenke (Joints) R Kothe
29 *Action of Radium on Animal Tissue H Heineke—Zur Kenntnis der Wirkung der Radiumstrahlen auf tierische Gewebe
30 Zur Kasuistik der Meningocele sacralis anterior W Meberding
31 *Ein Riesen Ovarial Cystoma P Zacharias
32 *"Steeple Skull" and Optic Atrophy K Velhagen—Ueber Turmschädel und Sehnervenatrophie
33 Tip of Whiplash Imbedded in Eye Noldeke—Eine ungewöhnliche Fremdkörperverletzung des Auges
34 Cutting Forceps for Nose Voss (Passow's clinic Berlin)—Eine neue schneidende Zange für die Nase
35 Mouth Lamp Spatula with Mirror H Kirchheldorf (Freiburg—Mundbeleuchtungsspatel mit ansetzbarem Mundspiegel
36 *History of Medicine and Hippocrates M Roth Geschichte der Medizin und H

27 **Cause of Colic**—Wilms ascribes the pains to the pulling and stretching of the distended biliary passages at their points of fixation This pulls on the sensory nerves there, and is the cause of gallstone colic pains When the gall bladder is normal it is more flexible and is able to pull harder than when it has become hard and thick This causes more violent pains, and it may be accepted as an axiom that the nearer to normal the condition of the gall bladder walls, the severer the colic In estinal colic is due to the same cause, traction on the sustaining mesentery The contraction of the intestinal wall tends to straighten out the gut, and the resistance to this straightening out offered by the mesentery is the cause of the colic in this case The conditions are similar in renal colic Occlusion of the ureter causes stagnation of urine with dilatation of the pelvis of the kidney and consequent pulling and stretching of the capsule There do not seem to be any sensory nerves in the mucosa of the ureter

28 **Temperature of Diseased Joints**—Kothe has devised a means of taking the temperature over large areas of the body It shows that when there is a disturbance in the circulation within the circulation in the skin over the part also varies from normal to correspond The application of dry hot air raises the local temperature sometimes as much as 8 degrees centigrade Alcohol compresses likewise raise the temperature of the part, but constriction inducing passive hyperemia gradually reduces it

29 **Action of Radium on Animal Tissue**—Heineke's studies have demonstrated that the action of radium rays is approximately the same as that of the Roentgen rays Lymphoid tissue is affected by them through the skin in the same way, but not to the same extent as with the Roentgen rays, unless the radium is brought into close contact, when a brief exposure will induce astonishingly extensive changes in the lymphoid tissue, apparent in a few hours

31 **A Giant Ovarian Cystoma**—Zacharias tabulates 14 of these giant tumors from the literature, including Barlow's case, in which the total weight of the tumor was 135 kilograms, more than 270 pounds He describes a case personally observed in which the distance between the xiphoid process and the symphysis was 110 cm and the circumference of the abdomen 187 cm, over two yards The patient was a small, thin woman but she weighed 264 pounds before evacuation of the cyst and 125 pounds afterward The weight of the fluid evacuated must thus have been about 139 pounds An expl
laparotomy is advisable when an operation is contemp
order to discover a point for the incision where there
adhesions If extirpation is found impossible, repeate
ture is the next resource, but the fluid reaccumulat
stantly in most cases and the intervals have to be made
and shorter It is possible by this means to keep the p
for years in comparative health Ford thus tapped a cy
forty nine times in five years, withdrawing 2,786 pints
ner reports 299 punctures during eight years in one
withdrawing 9 867 pounds of fluid contents

32 **"Steeple Skull" and O** **erve Atrophy**—Velhagen
had occasion to observe hich the skull tapered u
ward, causing the orbit ally shallow, and induc
ing atrophy of the optic izes that this atrophy
may be due partially to e growth in these
parts, and partially to the attains its prin

cipal growth in the period terminating with the seventh year and that a large number of ossifying centers are grouped at the small end of the orbit funnel His patients were 6, 17 and 23 years old, and the eyeballs protruded to a marked extent in each case They applied for relief from the typical symptoms of choked disc Friedenwald found 12 of these "steeple skulls" among 19 cases of visual disturbances accompanying skull deformities In the cases described the symptoms of choked disc became suddenly aggravated and, as suddenly, took an unexpected turn for the better The visual disturbances may subside completely if the cranial deformity is not very pronounced The bone growth in the part is liable to become so excessive that the "physiologic congestion" of normal growth becomes so intense that exudation results, with consecutive ocular disturbances They subside as the exudate is reabsorbed

36 **History of Medicine and Hippocrates.**—Roth remarks that the question whether Hippocrates or several authors wrote the great work which we call by his name can be decided only by the discovery of works preceding or contemporaneous with him None is known to date It is the most ancient and the only monument of Grecian medicine, and its contradictions and problems can be solved only by study of its pages by some physician familiar with the history of medicine Professional philologists or historians are not required for the task Roth sketches the influence of Hippocrates writings on the history of medicine

Wiener klinische Wochenschrift

Last indexed page 289

37 (XVII, No 25) New Independent Exanthem D Popischill (Vienna)—Ein neues als selbständig erkanntes akutes Exanthem
38 *Klinischer Beitrag zum Hydrocephalus syphilitischen Ursprungs D Galatti
39 *Ueber einen Wangen Tumor (of cheek) W Wienert
40 Das Neue physiologische Institut in Vienna S Exner
41 *Pseudo Hermaphroditismus A Swoboda From society report
42 (No 26) *Ueber die Sekundär Infektion bei Tuberkulose J Sorgo (Alland)
43 *Zur Kritik der Pilzvergiftungen (mushroom poisoning) J Hockauf
44 Neuritis bei einem unter Serum Behandlung geheilten Fall von Tetanus traumaticus V Grünberger
45 Ueber bazilläre Dysenterie speziell im Kindesalter K. Leiner
46 Hydrophobia in Germany C Sternberg—Die Tollwut in Deutschland und ihre Bekämpfung
47 (No 27) *Ueber experimentelle Leber Cirrhose G Joannovics
48 Ueber 2 Fälle von Pulmonal Stenose G Pommer
49 *Superinfektion und Primär Affekt. L Detre-Deutsch
50 *Struma und Tetanie J Jacobi
51 Gedächtnisrede auf Otto Kahler F Kraus
52 (No 28) *Bericht über die von der erweiterten Uterus Carcinoma Operation zu Erwartenden Dauer Erfolge (remote results of more extensive operating) E Wertheim
53 *Nieren Chirurgie und funktionelle Diagnostik (of kidneys) G Kapsammer
54 Radio-Aktivität der Karlsbader Thermen A Herrmann and F Pesendorfer
55 Biologische Reaktionen mit Bandwurm Extrakt (of tapeworm) R Fleckseder
56 2 Fälle von subkutaner Zerreissung des Musculus biceps brachii (laceration of) R Hahn
57 (No 29) Experimental Untersuchungen über die Folgen parenteraler Einverleibung von Pferdeserum (parents treated with horse serum) R Dehne and F Hamburger
58 Ueber abdominelle Infektionen mit Mikrococcus tetragenus R Müller
59 *Stools in Cholelit von Oefele—Der Kot bei Gallensteinen
60 (No 30) *Ueber ng des endemischen Kretinismus
mit Schilddrüs (thyroid) J Wagner von Jau
regg Official
61 Diabetes in Rel dney Affections B Vas—Der
Diabetes in V den Albuminurien bezw Nieren
krankheiten
Hypersusceptibil rculous Animals O Ball
(Prague)—Ueb eit bei ulösen Tieren
(No 31) Con arent tion of Various
Albuminoids and ass—Die Folgen
parenteraler In isch genuinen Eiweis
körnern
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mercurial treatment restored the other children to health The heads were all within normal limits, merely rather large, a rapid increase in size having been noted Attacks of screaming and restlessness in early infancy were retrospectively regarded as further evidence of hydrocephalus The case emphasizes the little dependence that can be placed on parents' statements—both scouting the idea of a possible syphilitic origin for the symptoms observed in the first fatal case in the family Galatti advocates immediate mercurial treatment in every case of hydrocephalus of uncertain origin The Neapolitan school treats every case of hydrocephalus with inunctions and the successful results observed are probably due to the fact that so large a proportion are of syphilitic origin

39 **Cystadenoma Papillare**—Wienert reports and illustrates what he believes is a hitherto undescribed tumor a papillary cystadenoma originating in the outlets of the glands in the mucosa of the cheek, with cystic degeneration

41 **Pseudo Hermaphroditism**—Swoboda remarks that male pseudo hermaphroditism is of much more frequent occurrence than the female, and yet, in doubtful cases physicians generally advise that the child should be brought up as a girl He protests against this practice, thinking that the arguments are all in favor of bringing such children up as boys, if the parents refuse their consent to a diagnostic operation, or one proves indecisive. He urges legislation to recognize, besides males and females, persons of an 'indeterminate sex" There used to be a law in Prussia allowing persons belonging to this category to choose for themselves, on reaching their majority the sex to which they should nominally belong This law has been repealed, but he thinks it is better than the present law according to which such a person runs the risk of being referred to one sex or the other in turn by different physicians who may examine him in succession

42 **Secondary Infection in Tuberculosis**—Sorgo states that 10 febrile tuberculous subjects were examined for the supposed secondary infection In 9, pure cultures of the tubercle bacilli were obtained, and in only 1 did the findings indicate mixed infection

43 **Mushroom Poisoning**—Hockauf writes from considerable personal experience and acquaintance, presenting an extensive study of mushroom poisoning as observed in Austria

47 **Experimental Cirrhosis of the Liver**—Joannovics was able to induce lesions, similar to those in man by administering to guinea pigs ammonium carbaminate and carbonate by the mouth, by inhalation of alcohol, repeated subcutaneous injections of chloroform, and by the action of poisons like toluylendiamin which destroy the red corpuscles and indirectly induce icterus and lesions in the liver tissue

49 **Super-Infection and Primary Lesion.**—Detre Deutsch is chief of the Jenner Pasteur Institute at Budapest, and has had fine opportunities for the research described It was undertaken to study the question of super infection in syphilis We know that a syphilitic subject can not acquire the primary bubo again This has been assumed to mean that he was immune to reinfection, but the results of the research described show the matter in another light They demonstrate that the initial symptoms induced by a virus in an already infected subject may differ widely from the initial symptoms observed in the primary infection The presence or absence of the initial symptoms is, therefore, no criterion as to the success or failure of a superposed inoculation The altered biochemistry of the organism may cause the primary symptom complex to vary- from the standard type as effectually as in case of acquired immunity The animal organism may have acquired a super infection notwithstanding that the typical initial symptoms of a new infection are entirely absent The research was conducted with tuberculosis on guinea pigs—as many of the conditions approximate those observed in human syphilis

50 **Struma and Tetany**—Jacobi has observed coincident struma and tetany in a mother and 2 children in a working family The children were 10 and 15 years old when the tetany developed In a fourth case the tetany developed and recurred only during pregnancies the patient exhibiting constantly a mild form of exophthalmic goiter This case confirms the assumption of a connection between the thyroid gland and the tetany

52 **Remote Results After Extensive Uterine Cancer Operations.**—It is now four years since Wertheim proclaimed the necessity for more radical extirpation in cases of cancer of the uterus He now announces from his six years' experience that the remote results are incomparably better since he has extended the operation Out of 11 cases, representing an operability of 29 2 per cent, 9 are free from recurrence after four years Out of 31 cases representing an operability of 45 per cent, 10 are free from recurrence after three years Out of 43 cases representing an operability of 51 per cent 26 are free from recurrence after two years In the cases of recurrence the new growth always originated in the iliac glands He has never found one in the inguinal glands. It is impossible to remove all the glands, and the superiority of his remote results is evidently due to his more thorough extirpation of the cancer itself As soon as he adopted his technic of more extensive operating the proportion of operable cases increased from 29 to 45 and 51 per cent He never operates through the vagina except in case of incipient cancroid of the portio vaginalis He believes in extirpating the glands as completely as possible, if only from the prognostic standpoint Recurrence was noted in less than a third of the cases in which the extirpated glands showed no trace of cancer

53 **Functional Diagnosis of the Kidneys.**—Kapsammer denies that cryoscopy of the urine has any diagnostic value beyond that of a mere hint that something is possibly wrong when the freezing point is much below normal He cites a number of instances from his experience to show how misleading it is liable to be In a case of bilateral pyelonephritis for example, the freezing point of the urine was left, —1 17 C and, right, —1 82 In a healthy subject he found the figures respectively —.40 and —.50 C Such anomalies may be due to polyuria of one kidney and to guard against false deductions, the amount of urine secreted by each kidney during a given period should be determined if possible In another case there was bilateral gonorrheal pyelitis and stones in the right kidney, and yet the freezing point of the blood was —.56 the normal figure, as also in another subject a man with bilateral renal tuberculosis In another patient it was also normal although the operation revealed bilateral pyelitis, the left kidney reduced to a loose sack whose walls were nothing but a layer of kidney parenchyma not more than 1 to 2 mm thick The right kidney was contracted and much inflamed only one-fifth of its substance being capable of functioning The Voelcker Joseph indigo carmine test has established its value for revealing the mouths of the ureters for study of the type of the secretion, and, associated with catheterization is a valuable functional diagnostic measure much superior to the methylene blue test Kapsammer modifies the phloridzin test and has thus applied it in 70 cases Thirty of the patients were operated on and the findings exactly confirmed those of the test in every instance The main point for the diagnosis is the interval before the glycosuria appears He makes a subcutaneous injection of .01 gm phloridzin in an aqueous solution, just boiled, so that it is still warm Sugar appears after twelve to fifteen minutes in normal subjects If it does not appear until after twenty to thirty minutes, the kidney is somewhat impaired, but still able to assume the total function If no sugar appears until after thirty minutes, the conditions forbid nephrectomy In a number of instances this test was the only one that could be relied on as an indication for surgical intervention This was recognized too late for some of the cases—the findings at the operation confirming the results of the test which had not been heeded by the surgeon The greatest benefit from these new functional tests—at the head of which he places simultaneous catheterization of both ureters—is in the possibility of an early diagnosis, and enlargement of the sphere of nephrectomy at the expense of nephrotomy He adds in conclusion that we need not dread any reflex anuria of the second sound kidney. The anuria noted and assumed to be of this nature is in reality due to insufficiency of the second kidn

diseased For the Voelcker Joseph test see page 69, of the last volume

59 **Feces in Cholelithiasis**—The results of 85 examinations of feces are tabulated They indicate that the composition of the feces varies materially from normal in case of stoppage of the flow of bile or a supply of abnormal bile

60 **Thyroid Treatment of Cretins**—Seventy two cases of endemic cretinism improved to a remarkable extent under mild thyroid treatment The majority of the subjects were restored apparently to normal conditions

65 **Three Cured Cases of Meat Poisoning**—Pelzl found high irrigation of the intestines, with *some irritating substance* such as glycerin or magnesium sulphate in the water, the best means to promote the removal of the cause and induce copious stools *Calomel and other purges afforded no relief* Another extremely important measure was the prompt resort to artificial feeding through the stomach tube, which abolished the distressing swallowing movements, liable to induce foreign body pneumonia or death from suffocation The mechanical stimulus from the stomach tube and the moistening of the esophagus improved conditions to such an extent that fluids could be safely ingested in two days A favorable effect was also obtained from pilocarpin which was given throughout the week, 20 drops of a 1 per cent solution by the mouth every morning No indications of collapse were observed with this dosage, but they followed a warm bath The diet was at first milk, with a little wine, but as soon as the paralysis of the swallowing mechanism was overcome, a strengthening diet was taken Moist sausages and other moist meat conserves are much more liable to cause meat poisoning than the dry Pelzl reviews the literature and explains the symptoms of botulism observed in his 3 cases as due to the action of the poison on the nuclear region from the end of the third ventricle to the beginning of the spinal cord in the neck He gives a diagram to sustain this assumption grouping the symptoms in 7 phases, appearing in turn, as 1 mild gastrointestinal disturbances, paresis of the intestines in 1 subject and vomiting and diarrhea in the others, 2 extreme dryness of skin, mouth and conjunctivæ, 3, paralysis of pharynx and esophagus muscles 4, *ditto of ocular muscles* 5, *reflex paralysis of muscles used* in closing the lids, coughing, vomiting, etc 6 general weakness of all the muscles, pallor, emaciation, and 7 paresis of the bladder muscles The gastrointestinal symptoms were in inverse proportion to the intensity of the poisoning The essential symptoms of the botulism did not appear until thirty six hours after partaking of the poisonous meat It was in the form of sausage, and had been well cooked just before being eaten There was nothing to suggest to the sight taste or smell that the sausages were spoiled The ocular disturbances were the first symptoms that brought the three soldiers to the physician, about twelve days after eating the sausages, the three previous phases of the poisoning having been borne without interfering materially with their military duties As will be noted the clinical histories differ in several points from those previously on record

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68 (XXV No 40) *Il sintoma di Kernig nella sciatica A Plessi
69 Sulla febbre ittero ematurica da quinina A Brancati
70 Ricerche sperimentali sull' eliminazione dell' ammoniaca nell urina C Ortali
71 *L'influenza dell trattamento calcareo sul decorso della tubercolosi sperimentale A Michelazzi
72 (No 43) Influenza dell' attivita musculare sulla distribuzione del sangue alla periferia C Cesarini
73 *Nuovo contributo alla conoscenza dei sieri citotossico S Sartirana (*Turin*)
74 *Due casi di trachoma tratati col raggi di Röntgen Ruggero Pardo
75 Due casi di typho anomalo M Ragazzi
76 Di un inizio anormale della polmonite crupale G Antonucci
77 (*No 46*) **Sahli's Test of Pancreas Functioning* G Galli—Valore diagnostico della prova di Sahli per la funzione pancreatica
78 Per la diagnosi di rene mobile (movable kidney) A Bocchi
79 Le afasie motorie G Matteucci
80 Il fegato infettivo acuto in una *forma morbosa non ancora* cognita (new form of infectious liver) S Pascoletti
81 Guarigione di un caso di tetano con sostanza cerebrale (recovery) F de Benedetti
82 *Due anni di profilassi malarica tra gli impiegati della rete ferroviaria dell' agro *cerignolano* (malaria prophylaxis on Italian railway) F Buono

68 *Kernig's Sign in Sciatica—Plessi observed this sign in a* typical form in 2 cases of sciatica, in both instances it vanished with recovery Abadie has stated that he found that this sign persisted in 3 cases *after spinal cocainization had* abolished all feeling in the parts In his cases the slow dropping of the cerebrospinal fluid and its normal composition showed that the meninges were intact Plessi thinks that he probably had not induced complete anesthesia of the parts, and that sensibility was retained in certain fibers, enough to induce this "reaction of defence," the sign called by Kernig's name

71 **Calcium Treatment of Tuberculosis**—Michelazzi restricts this report to his experimental research, not entering on his clinical experiences He commenced to treat experimental tuberculosis with calcium salts in 1902 All the control animals have died, while only 0 died of the 30 rabbits and guinea pigs treated with 2 to 3 gm a day of calcium phosphate, mixed with their food, and supplemented by repeated daily injections of lime water The tubercles in the animals were found more or less calcified or walled off by a fibrous enclosure The rabbits were not only clinically cured, but the pathologic anatomy also demonstrated a cure Some rabbits were kept alive for eight months, and they were apparently in the best of health The results were less evident in the guinea pigs, but still sufficiently promising A characteristic cirrhosis of the liver was manifest in these animals, and inoculation of other guinea pigs from their lesions gave positive results He thinks this difference in the results observed in the rabbits and the guinea pigs may be due to the fact that the former were inoculated with tuberculosis by intravenous injection, the latter by subcutaneous injection into the abdomen The calcium salts are deposited at the points of inflammation and afford a mechanical stimulus which starts and aids the process of repair, with a probable additional antagonistic action on the tubercle bacillus

73 *New Research on Cytotoxins—Sartirana has previously* announced that the injection of defibrinated blood alternating with an emulsion of brain substance (guinea pig), induces the *production of a powerful hemolytic and neurotoxic serum* On the other hand, alternate injections of defibrinated blood and of an extract of suprarenal capsule did not confer any hemolytic power on the serum, and only a slight suprarenal toxic action These observations suggested that the capsule extract and the defibrinated blood annulled each other's action He reports here the results of a number of varying experiments in this line on guinea pigs, rabbits and fowls, using the organs from the first No cytotoxic power was conferred on the serum of rabbits repeatedly injected with an emulsion of guinea pigs' suprarenal capsules Contemporaneous injection of brain substance and blood conferred both cytolytic and hemolytic power on the serum He thinks that this new technic of mixing various emulsions of different organs, combining or alternating them, is liable to solve some of the problems in regard to alexins, etc, as well as those of cytolysis

74 **Radiotherapy of Trachoma**—The 2 cases described were of long standing and rebellious to all the usual measures Six exposures, with a total of 44 minutes in one case and of 47 in the other, caused such marked improvement, both subjectively and objectively, that a cure is confidently anticipated The tube had a spark length of 650 to 700 mm, the distance varied from 30 to 45 cm, the applications were from 4 to 10 minutes at a time, and only one eye was treated, the eyeball protected with a sheet of lead at some of the sittings

77 **Sahli's Test of Pancreas Functioning**—A glutoid capsule, made of gelatin hardened with formaldehyd, is not affected by the organic juices except the pancreatic A capsule of this kind, containing iodoform, is supposed to pass unchanged through the alimentary canal until it encounters the pancreatic juice, when it is rapidly dissolved and the absorbed iodoform can be detected in the saliva and urine Sahli has proposed this technic as a means of *testing pancreas* functioning, but Galli reports from Baccelli's clinic a case of cancer of

the pancreas which renders dubious the results [illegible] of the test There could not have been any pancreatic [illegible] as the organ was entirely destroyed but the capsule [illegible] is effectually [illegible] in health

82 **Prophylaxis of Malaria in Italy** Since the [illegible] employes of a certain railroad have been [illegible] the number of cases of malaria has dropped from 64 in 1900 to [illegible] in 1903 while a control line has had 33 40 33 and 21 [illegible] during the same interval The railroad officials comment [illegible] light on the improvement in the general health and working capacity consequent on the refreshing sleep and well ventilated rooms free from the plague of mosquitoes In the Italian army, quinin prophylaxis has reduced the number of cases of malaria from 101 recurrences and 112 new cases the figures in 1898—to 15 and 87 respectively, in 1903 The total number of persons thus prophylacted in 1903 was 19 021 and only 10 per cent showed symptoms of malaria [illegible]

Russkii Vratch, St Petersburg

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83 (II No 44) Physical Measures in Various Affections I V Zablindowsky (Berlin)—Physitcheskia upratzhnenia pri bolyeznennykh protsessakh
84 *Signs of Tetany R A Peters— novykh i starikh priznak tetanii ikh primy nenie k raspoznavaniu n [illegible] bolyez nei u dyetei K voprosu o skrytoi tetanii (Commenced in No 44)
85 *Raw Meat Treatment of Tuberculosis B S Knotte Zomo terapi bugortchatki legkikh
86 Value of Cystoscopy and Catheterization of Ureters I G Sheftel—Znatchenie cystoscopii i catheterizatzii motche totchnikov voobshtche i dlya chirurgii potchek v osoben nosti (s pryedyavleniem ureterocystoscopa Nitze)
87 Ophthalmologic Notes on Foreign Bodies S I Rosht chersky—Iz ophthalm nabliudenii
88 (No 45) Results of Modern Otology A P Trophimoff—Uspyekhi sovremennoi otiatrii
89 *Case of Cirrhosis of Liver Without Ascites I A Ratner—Bezvodyanotchnii vennii tzirroz petcheni
90 Case of Successful Arthrodesis in Treatment of Paralysis of Shoulder Helkuing—O lyetchenii paralitcheskago bolt aiushtchagosa pletchevogo sustava postredstvom iskysstven nago ankilozirovaniya (artrodezi)
91 (No 46) Rare Case of Vascular Murmur in Liver Region A K Zubert—Ryedkii slutchai sosudistago shuma v oblasti petcheni
92 Cancerous Degeneration of Ovarian Dermoid Cysts T V Zalensky—O rakovom pererozhdenii kozhevikov yaitchnika
93 *Vomiting of Blood in Peritonitis A P Gerasimovitch—O krovavoi rvotye pri peritonitye
94 *Periodltcheskaya paraplegia A Shtchepinsky
95 (No 47) *Double Heart Beat O I Helsingius—K voprosu ob udvoenii verkhushetchnago toltchka serdtza
96 *Relations Between Physical and Mental Development O D Enko—O svyazi mezhdu physitcheskim i umstvennym raz vitiem

84 **Tetany in Children**—Peters expatiates on the importance of the information to be derived from two new signs which, in connection with Trousseau's symptom, enable even latent tetany to be differentiated The "jumping jack sign," is particularly valuable This is the jerking induced in the arms and legs when the galvanic current is turned on, the anode on the chest and the cathode on the cervical or lumbar enlargements The other sign—Quincke's lumbar puncture—has direct therapeutic as well as diagnostic value After the spinal canal has been relieved of the excess of cerebrospinal fluid, it is impossible to elicit the jumping jack sign for some time His work is based on examination of 600 children between four months and three years old Latent tetany was discovered in 22, associated with evidences of rachitis in 17, but not dependent on the latter, the coincidence being merely casual, he is convinced Examination of 77 children with a severe form of rachitis revealed latent tetany in only a single one Among the children with latent tetany were a number with excellent digestion, normally nourished, while, on the other hand, no signs of it could be detected in a large number of cases of severe debility and infectious processes All the signs and the tonic character of the spasms indicate a spinal origin for them The jumping jack and the Trousseau signs indicate a localization of the process in the region of the roots, while the latter sign suggests that the process develops on the side toward the dura where ganglia accompany the roots The jumping jack sign on galvanization of the cervical and lumbar enlargements together with the increased amount of cerebrospinal fluid indicates further that other tissues besides the nerve elements participate in the process, the bones, muscles and meninges Hypertension alone, without other signs, has no differential significance, but the Trousseau sign is pathognomonic, or at least, when it is absent, tetany can be diagnosed only when the other signs are pronounced, either the jumping jack or the Chvostek, Erb or Bekhtereff signs or the Frankhoff reaction to the galvanic current in the peripheral nerves and muscles In case of organic affections of the spinal cord or brain, none of these signs is observed, nor in organic affections of the peripheral nerves In one case the jumping jack sign was noted with some rigidity in the muscles of the back of the neck, throwing doubt on the correctness of the diagnosis, and suggesting rather poliomyelitis or dystrophy, with compression of the cord in the cervical region In fact, digital examination through the mouth revealed a cystic abscess on the anterior aspect of the spine, a result of spondylitis of the upper cervical vertebrae In 2 cases of epilepsy the occurrence of the jumping jack symptom, with excessive pressure in the cerebrospinal fluid, suggested the assumption that, besides the cerebral affection, there was also some complication on the part of the spinal cord Some of these signs of tetany were observed in 2 cases of hysteria In 5 out of 9 cases of eclampsia the positive findings of these 3 signs revealed the presence of tetany In respect to "latent tetany," he does not agree with those who regard it as a physiologic property of early childhood (Goltmann's spasmophilia) Latent tetany represents, *per se*, the participation of the spinal cord in the morbid process, but it may develop into the extreme type of eclampsia in which the symptoms seem to be exclusively cerebral Latent and declared tetany should be accepted as a single morbid process, but latent tetany and rachitis are two distinct entities

85 **Raw Meat in Treatment of Tuberculosis.**—Knotte summarizes the reports of this method of treating tuberculosis published by various authors, and then relates his own experience with over 30 patients The first was a man of 30, of a consumptive family, infected with syphilis ten years before, which had required energetic specific treatment, suffering also from neurasthenia and exposed to severe climatic vicissitudes Notwithstanding all these unfavorable circumstances, the patient made marked improvement under the "zomo therapy," according to Héricourt and Richet's directions The other patients were put on the raw meat for longer or shorter periods, and all were objectively improved Eight patients followed the course systematically for from three to six months, about 300 to 350 gm of raw meat being taken as the daily dose His experience confirms the efficacy of zomo therapy as a powerful aid in the treatment of tuberculosis, especially when it is impossible for the patient to seek a more favorable climate His patients all improved both objectively and subjectively, but none was actually cured The liver and kidneys must be watched during this treatment to prevent disturbance in their functions from the raw meat When this is done zomotherapy can be regarded as an efficient builder up, with a certain specific action on the morbid process, the improved nutrition, in turn, having a further specific action on the infection Richet believes that the elements of the meat combine with the cells of the body in such a way that the latter lose their chemical affinity for the tuberculous toxins

89 **Cirrhosis of the Liver Without Ascites**—The interest in the case described lies in the fact that Nature had established a collateral circulation such as is sought by the Talma operation The result is that there has been no ascites during the eight or nine years of the liver affection The enlarged veins of the collateral circulation can be distinctly traced through the skin over and on both sides of the median line from the groin nearly to the mammary line The patient was a fairly well nourished man of 41, the spleen was not enlarged

93 **Hematemesis in Peritonitis**—Gerasimovitch concludes from an experience with 11 patients and culling of the literature on the subject, that toxic
appendicitis, as Dieulafoy conte … s not a sign of
lent peritonitis In case of ap … l septic puru
… eritonitis it

is a sign that the bacteria have passed from the appendix into the stomach and indicates septicemia In the first category the hematemesis is due to diapedesis of blood, the erosions being secondary Besides the toxic changes in the walls of the vessels, the paralysis of the vasomotor system of the stomach, local congestion and increase in the blood pressure, all co operate in the production of the hemorrhage in the stomach Toxic hematemesis may be observed both in children and adults, and is a bad omen

94 **Periodic Paralysis**—Shtchepinsky has collected the data obtainable in the literature, and from this and a case personally observed he draws the clinical picture of periodically recurring paraplegia. He also discusses its nature, treatment, etc The usual remedies for nervous affections are generally ineffectual The essence of the trouble is still a mystery

95 **Duplication of the Heart Beat**—The case described can not be classed with Riegel's pulsus bigeminus nor with Leyden's hemisystolia, although it suggested both of them The patient was a man of 30, with hypertrophy of both ventricles, mitral and aortic insufficiency, endocarditis and irregular rhythm Death occurred in asystolia and general heart failure The heart was found in fatty degeneration, and there was a second, supernumerary apex It was the apex of the right ventricle, and, like a small aneurism, it increased in size at the end of the diastole under the impulse of the blood wave, becoming apparent in its interspace to the finger and eye, and thus inducing the first half of the double superficial heart beat The apex of the heart was practically split into two parts, the walls of the right ventricle tapering to a point, the pouch consisting merely of endocardium and pericardium with a thin layer of fat cells between them Doll has reported a somewhat similar case, although the left heart was the site of the anomaly in his patient This is the only other case of which the author has knowledge They show that in cases of double heart beat the causes may be various Most frequently, however, the supernumerary beat is "active," and is caused by the manifestations of bigeminus of the heart But cases do occur in which it has a "passive' character, and is due merely to some individual peculiarity

96 **Relations Between Physical and Intellectual Development**—Endo tabulates the findings of examination of hundreds of girls in a large school in St Petersburg, comparing their standing in the classes with their physical development He found it to be the rule that the girls who developed physically comparatively young were equally precocious in their studies The girls who menstruated at an early age usually graduated younger than their mates

Vratchebnaya Gazeta, St Petersburg

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97 (XI No 10) Problems of Medical Education W Strauge—Zadatchi med obrazovaniya.
98 Influence of Veronal on Animal Organism A Korableff—O vliyanii veronala na zhivotnii organizm
99 Value of Nitrate of Silver in Gastric Affections V Mandelberg—Arg nitricum pri terapii bolyeznei zheludka
100 *Yeast in Diabetes G A Nandelstedt—O primyenenii sukhikh prossovannykh drozhzhei pri sakharnom diabetye
101 (No 11) Importance of Early Intervention in Case of Suppuration in the Lungs G Zeidler—Ob operativnom vmyeshatelstvye pri legotchnykh nagnoeniyakh
102 *Necessity for Phosphorus in Food E V Ototzkaya—O soderzhanii phosphora v pishtchevykh produktakh i o znatchenii ego dlya organizma (Commenced in No 10)
103 Two Cases of Acute Mania After Grippe Recovery V V Stavsky—2 slutchaya grippa, oslozhnivshievya ostrym pomyeshatelstvom
104 (No 12) O vliyanii pervikh myesyatzey kazarmennoi zhizni na physicheskoe razvitie i zdorove molodykh soldat (first months of military service) T Glikman.
105 (No 13) Local Statistical Study of Tuberculosis S Generopitomtzeff—Bugortchatka v Paraflevskoi volosti (Commenced in No 12)
106 (No 14) Power of Absorption of Pleura in Inflammations with Effusion S K Gogitidze—K voprosu o vsasyvalushtchei sposobnosti plevry pri vypotnykh vospaleniyakh (Commenced in No 13)
107 Individual Prophylaxis of Venereal Affections L Jakobson—Tchastnaya prophylaktika vener bolyeznei (Commenced in No 10)
108 Case of Acute Yellow Atrophy of Liver S Stankevitch—Slutchai ostro zheltoi atrophie petchen! (Commenced in No 12)
109 *Treatment of Diarrhea with Extract of Green Oranges V N Vorontzoff—O letchenii ponosov etc (fructus aurantii immaturus)

100 **Compressed Yeast in Diabetes.**—Nandelstedt endorses Cassaet's experience in regard to the benefit to be derived from the use of *compressed yeast* in diabetes The thirst is reduced, the glycosuria subsides and these results persist even under moderate ingestion of carbohydrates

102 **Importance of Phosphorus in the Food**—Ototzkaya proclaims that when the food does not contain the requisite physiologic proportion of phosphorus, the system suffers from phosphorus starvation This is manifested in various ways, but chiefly in the nervous system The *normal proportion* should be one part phosphoric acid to five parts nitrogen The best means of determining the phosphorus balance is by the acidity of the urine In case it shows phosphorus starvation, vegetables and milk should be ingested more freely or some preparation of phosphorus should be taken as a medicine or with the food Phosphoric acid will be *found useful* and convenient for the latter purpose

109 **Extract of Green Oranges in Diarrhea.**—Vorontzoff describes 4 cases in detail out of a larger experience to sustain his assertions in regard to the great efficacy of an extract of unripe oranges in the treatment of severe diarrheas He has never heard of its application in dysentery, but it proved successful in several instances after failure of all the usual measures

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers

PATHOLOGICAL TECHNIC A Practical Manual for Workers in Pathological Histology and Bacteriology Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods By Frank Burr Mallory, A M M D, Associate Professor of Pathology Harvard University Medical School and James Homer Wright, A M, M D Director of the Clinico-Pathological Laboratory of the Massachusetts General Hospital Third Edition Revised and Enlarged, with 156 Illustrations Cloth Pp 460 Price, $3 00 net. Philadelphia, New York and London W B Saunders & Co 1904

A TEXT BOOK OF MATERIA MEDICA Including Laboratory Exercises in the Histologic and Chemic Examinations of Drugs. For Pharmaceutic and Medical Schools, and for Home Study By Robert A Hatcher Ph G M D Instructor in Pharmacology in Cornell University Medical School of New York City, and Torald Sollmann M D Assistant *Professor in Pharmacology* and Materia Medica in the Medical Department *of the* Western Reserve University of Cleveland Illustrated Flexible Leather Pp 400 Price, $2 00 net Philadelphia, New York, London W B Saunders & Co 1904

SURGERY A Manual *for* Students and Practitioners Lea s Series of Medical Epitomes By M. D Arcy Magee, A.M., M D Demonstrator of Surgery and Lecturer on Minor Surgery, and Wallace Johnson Ph D, M D Demonstrator of Pathology and Bacteriology in Georgetown University Medical School Washington D C Cloth Pp 295, with 120 Engravings Price, $1 00 net. Philadelphia and New York Lea Brothers & Co 1904

APPLETON'S MEDICAL DICTIONARY An Illustrated Dictionary of Medicine and Allied Subjects in Which Are Given the Derivation Accentuation and Definition of Terms Used Throughout the Entire Field of Medical Science Edited by Frank P Foster M D Half Leather Pp 1 991 Price $10 00 Thumb Index, $11 00 New York and London D Appleton & Co 1904

THE DEVELOPMENT AND ANATOMY OF THE PROSTATE GLAND, Together with an Account of Its Injuries and Diseases and Their Surgical Treatment (The Health Scholarship Prize Essay) By W G Richardson M B, B S F R C S Assistant Surgeon at the Royal Infirmary Newcastle-on Tyne Cloth Pp 121 Price, $3 75 net London J & A. Churchill 1904

THE PRINCIPLES OF HYGIENE A Practical Manual for Students Physicians and Health Officers By D H Bergey, A M M D Assistant Professor of Bacteriology Illustrated. Second Edition Thoroughly Revised and Enlarged Cloth Pp 536 *Price,* $3 00 net Philadelphia *New York and London W B Saunders & Co* 1904

A HAND BOOK OF SURGERY For Students and Practitioners By Frederick R Griffith M D Surgeon to the Bellevue Dispensary New York City *Assistant* Surgeon at the New York Polyclinic School and Hospital 12mo Volume of 570 Pages Containing 417 Illustrations Philadelphia New York London W B Saunders & Co 1904 Flexible Leather, $2 00 net

THE PHYSIOLOGICAL FEEDING OF INFANTS A Practical Hand Book of Infant Feeding and Key to the "Physiological Nursery Chart" By Eric Pritchard M A M D (Oxon) M R C P (Lond) Second Edition Greatly Enlarged and *Entirely Rewritten* Cloth Pp 202 Price, $1 50 net. Chicago W T Keener & Co 1904

A TEXT BOOK OF DISEASES OF WOMEN By Charles B Penrose M D Ph D Formerly Professor of Gynecology in the University of Pennsylvania With 225 Illustrations Fifth Edition Revised Cloth Pp 550 Price, $3 75 net Philadelphia New York and London W B Saunders & Co 1904

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Original Articles.

APPENDICITIS IN CHILDREN.*

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The subject of appendicitis has, during the last decade, received so much attention that one might suppose that there was but little more to learn concerning this rather puzzling disease. The term puzzling can certainly be justly employed, at least when speaking of its etiology, for we must frankly confess that our knowledge of this subject is but little further advanced than when the disease was first named appendicitis. We have, of course, learned much about its symptomatology, but even to-day I know of no surgical disease which more often offers surprises to the operating surgeon. The symptoms, or at least our interpretation of the symptoms, do not always indicate the actual condition of the appendix. I need not narrate to you cases where an appendix in a threatening or dangerous state is found when the symptoms have been comparatively trifling. It is this uncertainty which has mainly led surgeons to advise very early operative interference in all cases. No one can certainly tell at the beginning of an attack whether perforation has or has not occurred, or that gangrene of the entire organ will not result in the course of a few hours. Of course, if possible it is desirable to await the subsidence of the acute attack before removal of the appendix. The experienced surgeon can very often, by careful and frequent observations, safely carry the case along to the quiescent stage. This, however, can not always be done, and it is because of the exceptions that all surgeons are now practically agreed that the best results, both for preservation of life as well as of the strength of the abdominal wall, are obtained if the appendix be removed in the early hours of the attack.

Unfortunately, for many reasons, this practice can not invariably be carried out, and many cases are, and will continue to be, thrust into our hands, which have passed beyond the early stages of the disease. In such cases immediate operation will not always give the best results. There can be no doubt, I think, but that this rule of treatment should be almost absolute, provided that the infection is confined within or to the appendix itself. When, however, the infection has spread beyond, whether through a perforation of its wall or through the transudation of pyogenic bacteria through its inflamed coats, the propriety of advising immediate operation in every case becomes to my mind doubtful. A few years ago it was almost the universal feeling, I think, that the appendix should invariably be removed as soon as possible, no matter what the stage of the disease. Personally, I have always felt that there were many exceptions to this rule, and for a year or two past the drift of surgical opinion has been, I think, toward less radical views on this subject. This drift has become still more pronounced since the treatment formulated by Ochsner has apparently shown that many a life can be saved by judicious delay. While I can not quite agree with Dr. Ochsner in his extreme position, yet I feel very strongly that his teachings on this subject are well grounded, and if followed intelligently, but not blindly, will tend to lessen decidedly the mortality of grave cases of appendicitis. Certainly my own experience during the past year or two has led me to this conclusion, for I feel that in some cases postponement of the operation for some hours has immensely aided the recovery of the patient.

For example: In cases where there has been a sudden perforation with resulting peritoneal shock of extreme degree, the patient is in a very poor condition for a serious operation, and the peritoneum as well is not as resistant against infection as it will be some twelve hours or so later. In such cases, where there is apt to be much abdominal distension, a weak and rapid pulse with symptoms of general shock, the postponement of the operation for twelve or twenty-four hours will often result in a very decided improvement in the patient's condition, provided that starvation be absolute. The abdomen will generally become less distended and the pulse will improve.

You may ask what bearing have these remarks on the title of my paper, "Appendicitis in Children." It is mainly concerning this point of treatment, however, wherein I think the treatment of this disease in children should differ from that among adults.

I do not think that it is properly appreciated, among general practitioners at least, how frequently appendicitis occurs in children. The operating surgeon very often encounters in the course of his operations on young adults the history of attacks of abdominal symptoms dating back to their earlier years, which undoubtedly, arguing from the state of the appendix found at operation, were due to mild attacks of appendicitis. It is often difficult to distinguish cause from effect, and unquestionably in many of these cases the previous abdominal symptoms may have been caused not by appendicitis, but by attacks of catarrhal enteritis, yet, at the same time, there are others whose attacks of indigestion, which have recurred at intervals since early childhood, immediately cease after removal of an appendix, which distinctly shows the results of years of recurring attacks of inflammation. Of course, I appreciate the fact that the surgeon encounters but a minute proportion of the intestinal cases among children, and because of the few cases where a later manifestation of appendicitis leads him to attribute the digestive ailment of childhood to that cause, he is, perhaps, apt to overlook the millions of young patients who have manifested similar symptoms, and yet whose appendices have never shown evidence of disease I am willing to grant all this, but yet one can not avoid the conclusion that appendicitis in children is not an uncommon disease

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SYMPTOMS

The symptoms on which we most depend for our diagnosis of appendicitis are pain, local tenderness, muscular rigidity, vomiting and abdominal distension Pulse is often of value, as is also the temperature, but these two symptoms have more significance, perhaps, as regards the severity, rather than the actuality of the disease

In children, especially those under 10 or 12 years of age, the important symptoms, with the exception of vomiting, are apt to be masked Of course, the older the child the nearer the disease approaches the adult type

As my experience increases, I am becoming more and more convinced that appendicitis in young children differs somewhat from the same disease in adults The difference consists in the obscurity of the diagnostic symptoms and in the more insidious progress of the disease The younger the child the greater is the difference The correct diagnosis of disease in young children is often beset with difficulties Their inability to locate pain, their general restlessness and fretfulness and the unreliability of the significance of temperature are some of the causes of this difficulty

Pain—This, especially at the beginning of the attack, is, as a rule, probably as severe in the child as it is in the adult, but the uncertainty of its location impairs its value as a diagnostic symptom A general pain in the belly is complained of, the child not knowing exactly where it is located, at one moment pointing to the upper, at another to the lower abdomen It hurts everywhere, apparently not specially in the appendicular region This symptom, which of itself in the adult is of great significance, can only help us in the case of children by its combination with other symptoms In certain phlegmatic children there seems to be at times almost complete absence of pain Tenderness to pressure is apt to be equally doubtful The child generally dreads any palpation of the abdomen and complains almost as much in one part as another

Muscular Rigidity—This symptom, which is, perhaps our most important guide in the diagnosis of appendicitis in adults, is in children equally obscure The child is suffering pain and is prepared to cry out, and unless taken unawares, to tighten its abdominal muscles as soon as or even before the skin is touched by the examiner's finger The dread of being hurt causes the muscles to act on guard at almost any point of the abdomen If the utmost gentleness and patience are practiced, along with diversion of the child's attention, sometimes this symptom can be elicited and if certainly found, the diagnosis is at once confirmed

Vomiting—This is in children probably the most persistent symptom It at least is the most evident It is apt to continue in spite of starvation and medication If it does so, and persists for many hours without other adequate reason, and if it be accompanied by severe pain with absence of intestinal movement, the suspicion of appendicitis should be very great Persisting with severe abdominal pain for twenty-four hours or more even with intestinal movements the suspicion is still considerable The accompaniment of diarrhea is, of course, unusual, and points more toward a gastroenteritis, but still it may occur with appendicitis

If the abdomen becomes more and more distended the diagnosis of appendicitis becomes more and more probable Of course, for a perfect picture we should also have either local tenderness or muscular resistance, but, as already stated, these symptoms in children are apt to be wanting

The history of previous attacks of vomiting without adequate cause is of considerable diagnostic value The surgeon is, perhaps, apt to lay too much stress on the importance of such "bilious attack," but if he does so it is because very frequently in the cases on which he operates such a history is given It is important, however, that such attacks should be separated from those due to indiscretions in diet or an overloaded bowel

The diseases from which, it seems to me, appendicitis in children is especially difficult to differentiate, are gastroenteritis, with the gastric element most predominant, diaphragmatic pleurisy and basal pneumonia To my mind, certain of these doubtful cases are the most puzzling which the surgeon encounters In certain cases of acute indigestion or of gastroenteritis in its early stages, the differentiation from appendicitis is not easy The following points may be of some value The persistence of vomiting with severe pain for more than twenty-four hours, especially if there be no diarrhea, favors the diagnosis of appendicitis If the constipation be obstinate, the suspicion of appendicitis is generally sufficiently strong, should there be at the same time any one other symptom of this disease to warrant operation If there be diarrhea, it generally though not always, means that the case is at least less urgent

The existence of high fever probably rather favors gastroenteritis The blood examination may shed some light on the diagnosis The differential count is of more value than the mere leucocyte count There are however, so many exceptions to the general rule that personally I do not feel much confidence in blood examinations in young children Judging from a somewhat limited experience with the iodophilia test, it seems to me to offer more promise of valuable information than does either the leucocyte or differential count

As an example of the difficulties let me give the following history

Case 1—Girl, aged 4 During her first year there were several attacks of pain, vomiting and fever, lasting a few days and then passing off entirely In the second and third years these attacks occurred in milder degree The child was always carefully dieted In December, 1903, there occurred a sharper attack of pain, but there was no fever, no vomiting and no localization of the pain Since that time until April, 1904 about once a week the child would complain of a sudden, sharp abdominal pain which would last, however, but a few minutes It had no apparent connection with her meals and might occur when she was at play or out walking The digestion was apparently always good, and the child looked well There was considerable difference of opinion as to the diagnosis The father, who was a physician, and myself felt, however, that the chances of the cause of the trouble was a chronically inflamed appendix Accordingly, on April 11, 1904, it was removed It was found markedly diseased with the mucous membrane the seat of hemorrhages, and in a condition where perforation was imminent Since the operation the child has been entirely free from pain

To some of you it may appear foolish to dwell on the difficulty of differentiating appendicitis from diaphragmatic pleurisy, but it has been my lot to encounter several cases where it has been for a time quite impossible to distinguish between these two conditions Within the last few years I have been called on at least half a dozen times to either operate or decide concerning the propriety of operation in such cases In these half dozen cases time has shown that I have been as often wrong as right in my diagnosis, though, fortunately, in the cases that have proved to be pleurisy or pneumonia, a half day's delay has in every case saved the patient from an unnecessary operation Let me briefly relate three of these cases

Case 2—Boy, aged 8, who had usually enjoyed good health, was seized on November 5, in the early morning, with severe abdominal pain. He was at once given a dose of castor oil and throughout the day this was followed by two doses of Rochelle salts Later in the day vomiting began and continued more or less for twenty four hours There was some fever and a rapid pulse The bowels refused to move in spite of enemata, the abdomen began to distend, the pain continued The family physician called a children's specialist in consultation from New York (*the child was in the country*), and both were puzzled as to the diagnosis There was no cough, and no pain was assigned to the chest. The vomiting continued the abdomen was markedly distended, tender everywhere, and the child looked very ill Prepared to operate I saw the child toward midnight, twenty two hours after the commencement of the attack. It was a question as to diagnosis, the vomiting, absolute constipation, abdominal pain and tenderness made a diagnosis of appendicitis or intestinal obstruction probable There was a faint sign, however, of irritation of the lower left pleural surfaces, and we decided that a delay of a few hours was advisable. On the following morning the signs of pleurisy with probably a basal pneumonia were well developed. The child made a good though slow recovery

In this case the entire absence for at least forty hours of any abnormal chest sounds and the severity of the abdominal symptoms seemed markedly to favor intraperitoneal inflammation Until the abnormal chest sounds developed, diagnosis was impossible The case was a most puzzling one, and the delay in awaiting the pathognomonic symptoms would probably have caused a fatal termination had the appendix been involved

I do not feel that I can express views of much value as to the differential points between appendicitis and diaphragmatic pleurisy Of course, I am now referring to cases where abnormal chest sounds are absent Perhaps in cases of pleurisy a certain fixation of the lower ribs or stoppage of the respiratory movements at this point may be noticeable Perhaps also the child is more apt to toss about the bed than he would be apt to do were his appendix inflamed, but even in this latter condition the child is much more apt to be restless than is the adult If the child be inclined to assume the adult position of rest on the back with the thigh or thighs drawn up, the chances are in favor of appendicitis but, as already stated, children often fail to assume this posture The passive flexion and extension by the surgeon, of the thigh on the abdomen is in appendicitis even in children apt to be more resisted and dreaded than it would be in diaphragmatic pleurisy Sometimes, but not generally this symptom is of considerable value

Of course, if there be a tender spot or muscular rigidity, the diagnosis is easy If a boardlike condition of the abdomen develops we may be certain that the case is a very grave one of partial peritonitis

INSIDIOUS PROGRESS

Another point to be considered is the progress of the disease and its treatment The progress is often marked by insidiousness A case that is apparently mild will sometimes gradually drift, perhaps, without any alarming symptoms, into a grave condition with general septic peritonitis in spite of the most careful watching The pulse and temperature may remain normal, vomiting may cease, distension may not be marked and the bowels may even continue to move, and yet a general peritonitis is developing I am inclined to think that there is not the same effort on the part of Nature to wall off the inflamed appendix in children that so often occurs in adults Not only is this spreading tendency of the infection insidious, but it is often very rapid

I have encountered dozens of cases where the disease followed such a course The following are examples

Case 3—Girl, aged 13, was attacked in the early morning, April 21, 1904, with severe, sharp pain and vomited The temperature reached 99½ and the pulse 100 The bowels moved during the day, the pain toward evening became less, and the whole aspect of the child seemed improving, the pulse became slower and the night was passed comfortably In the morning, however, of the next day, in the course of a few hours, the whole aspect rapidly changed The abdomen became boardlike, the countenance assumed an anxious appearance, and the pulse rose in frequency and was very wiry There was also a tendency to vomit At 11 a m of that day, April 22, an operation revealed an appendix almost entirely gangrenous and a general suppurative peritonitis The child made a slow recovery

Case 4—Girl, aged 5, was seized on the evening of Nov 23, 1903, with abdominal pain She vomited, and during the night was restless, temperature 99½, pulse 90 The night was passed comfortably On the next morning the child seemed brighter, and asked for her breakfast, temperature 99, pulse 85, very slight pain was complained of When I saw the child at 11 30 of that day (November 24), *the abdomen seemed to me* rather tense, three hours later the tenseness was more marked and the child looked more ill Operation performed at 4 p m revealed a perforated appendix and a general peritonitis Thorough irrigation and drainage was employed and resulted in recovery

I could narrate many other cases where the symptoms have for days been of the mildest degree, and apparently all abating, when suddenly the conviction is forced on the physician, that some change has occurred, and operation then reveals a hopeless general peritonitis Dr Brannan's[1] instructive case is another example of treachery in the behavior of the appendix.

In the children there also seems to me greater liability to rapid gangrene Of course, in adults we often encounter cases where gangrene has been rapid and extensive, but this tendency strikes me as existing more frequently in children The following case is an example

Case 5—Girl, aged 11, in the evening of July 2, 1902, while in an automobile, was seized with severe abdominal pain During the night there was slight vomiting and some fever (101 degrees) On the following morning the abdomen was rather tense, and while the pulse was not over 80 Dr W K. Draper felt that immediate operation *was demanded The tenseness* of the abdominal muscles was suspicious The operation was done just twenty hours after the appearance of the first symptoms, and the long appendix was found absolutely gangrenous from its tip to its very base and even beyond A spreading peritonitis had begun but the child made a good recovery

REMARKS

Because of this treacherous behavior of the inflamed appendix in the child as well as the inferior tendency to limit the inflammation by adhesive peritonitis, I feel very strongly that in every case of appendicitis in children immediate operation should be advised No matter what the stage of the disease may be, I feel it much wiser to operate at once, and not delay in hopes that at a later date an interval operation may be performed This advice is in accord with that of many surgeons for appendicitis at any age, but, as already expressed in this paper, I am not entirely in accord with such views, except in cases of children The older the patient the less tendency there seems to me to be to spreading peritonitis, and the more unfavorable are the results of operation in grave cases

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[1] Medical Record April 30 1904

My own experience with operations for general septic peritonitis has demonstrated to my own satisfaction that the results of the operation on young adults, if they be rapidly performed are apt to be favorable, while those on patients over 10 or 15 are almost invariably fatal

I thought it might be of interest to give the age statistics of 1,000 cases of appendicitis, at the time of their operation While my operative cases number more than this, I have not included those of the last few months, as a round number like 1,000 seemed to me more convenient I have also tabulated in 1,500 cases which I have personally seen, the ages at which, as far as could be ascertained, the first symptoms of inflammation of the appendix manifested itself

TIME OF OPERATION OF 1,000 CASES

Age in years	No of cases	Per cent	Age in years	No of cases	Per cent
1 2	3				
2 3	1		15 16	14	
3 4	7		16 17	24	
4 5	6		17 18	28	
			18 19	27	
1 5	17	1 7	19 20	20	
5 6	8		15 20	11'	11
6 7	10				
7 8	12		20 25	176	17 6
8 9	10		25 30	176	17 6
9-10	11		30 35	149	14 9
			35 40	99	9 9
5 10	51	5 1	40 45	65	6 5
			45 50	35	3 5
10 11	15		50 55	15	1 5
11 12	19		55 60	11	1 1
12 13	15		60 65	6	0 6
13 14	21		65 70	2	0 2
14-15	15		70 75	1	0 1
10 15	85	8 5			

RATIO OF AGE TO FIRST SYMPTOMS IN 1 500 CASES

The proportion which had the first symptoms in the first year is 003 per cent of all cases,

In first 2 years	1 33
In first 5 years	7 5
In first 10 years	17
In first 15 years	31
In first 20 years	46
In first 25 years	54
In first 30 years	70
In first 35 years	82
In first 40 years	89
In first 45 years	94
In first 50 years	96
In first 55 years	98
In first 60 years	99
In first 65 years	99 5
In first 70 years	99 75
In first 75 years	100

From these statistics it will be seen that young adult life furnishes the largest number of cases of appendicitis In those that demanded operation, the greatest number occurred between the ages of 20 and 35, the proportion being over 50 per cent After 35 the proportion of cases becomes rapidly and progressively smaller between 40 and 50 being but 10 per cent

Before the age of 20, the proportion is 26½ per cent , before the age of 15 years, 15 per cent , before the age of 10 years, 068 per cent The youngest cases in my series were 12, 12½ 16 and 20 months, respectively Over 60 years the proportion was nearly 1 per cent (009) The oldest case was 72½ years

THE DIAGNOSIS OF APPENDICITIS

SHOULD THE APPENDIX BE REMOVED WHEN THE ABDOMEN IS OPEN FOR OTHER CONDITIONS? *

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So much has been written and said about the ease of diagnosing appendiceal disease, so little stress has been laid on the occasional difficulty of making a correct diagnosis, that condemnation is heaped on those who fail to appreciate the real condition Sight is lost of the fact that the best diagnosticians and abdominal surgeons are occasionally put to it to determine whether the appendix is the seat of the trouble or not Mistakes are made by the very best surgeons Each of us should profit by his own mistakes and the mistakes of his fellows, and each of us should be willing to give the whole profession his experiences, fairly and unreservedly

I have only removed 272 appendices of which I have accurate records In forty instances, multiple operations were done at the same seance, and in many of them the diseased condition of the appendix was not definitely diagnosed before opening the abdomen.

In 71 of these cases appendiceal disease was associated with or masked by one or more of the following conditions In 4 cases by renal calculi, in 5 cases by gallstones or gall-bladder adhesion, in 18 cases by vague symptoms of indigestion, biliousness and indefinite colic, in 5 cases by frequently recurring dysentery or rectal disease, in 3 cases by acute intestinal obstruction, and in 2 cases of typhoid fever, in 12 cases by floating and diseased kidneys, in 1 case by acute septic nephritis, in 1 case by retroperitoneal tubercular abscess, in 3 cases by tubercular peritonitis, in 11 cases by marked menstrual disturbances, in 11 cases by disease of the uterine appendages, in 2 cases, retrocecal herniæ were mistaken for appendicitis, the appendices only becoming involved incidentally In 2 other cases no diagnoses were made, but exploratory operations demonstrated appendiceal disease In 1 case, in a young girl, a ruptured dermoid cyst was diagnosed appendicitis, and in another, a right salpingitis was diagnosed appendicitis

I have done at one sitting, on the same patient, without unusual shock or prolonged convalescence, the following operations Dilatation of the cervix and curettement of the uterus, removal of a number of enlarged cervical glands and hemorrhoids, anchoring a floating kidney, and removal of a diseased appendix At another time I removed at the same sitting a diseased appendix, and did a gastroenterostomy for contraction of the pylorus consequent on gastric ulcer two years before

In the process of evolution, medicine and surgery have reached a stage of development when such terms as colic gastralgia, acute indigestion and intestinal indigestion can no longer be loosely used in diagnosis without subjecting the user to just criticism They are but symptoms of some definite chemic or mechanic defect in the digestive process, and careful investigation would reveal the underlying pathology, i e, a contracted pylorus, gallstones or appendiceal disease, or partial intestinal obstruction from old adhesions

Since Edebohls, Deaver and other leading members of the surgical side of the profession called attention to

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the frequent association of appendiceal and pelvic inflammatory disease, a vigorous discussion has been waged pro and con, the one side claiming that inflammatory disease of the appendix is apt to involve the uterine appendages, and that disease of the appendages is often the direct cause of inflammatory appendiceal disease, while the other side argues with equal zeal that the conditions are separate and distinct and seldom corelated They hold, therefore, that the appendix should not be interfered with when bound up in adhesions due to pelvic inflammatory disease, and that the freed appendix is not likely to give future trouble

REMOVAL OF APPENDIX DURING OTHER OPERATIONS, INCLUDED IN CLASS 1 TO 13

S-O Salpingo-oöphorectomy R right D double

	Class	No	Deaths
Acute intestinal obstruction	1	1	
Acute intestinal obstruction	4	1	
Exploratory laparotomy	6	1	
Exploratory laparotomy	5	1	
Dilated stomach contracted pylorus	5	1	
Caseous deposit in R kidney nephrotomy	5	1	
Tubercular peritonitis	5	3	
Tubercular peritonitis	6		
Ventral hernia, post. op —repaired	5	1	
R. S-O	5	2	
R. S-O	5		
Dermoid cysts of ovaries, D S O	4	1	
D pyosalpinx, D S-O	5	1	
D pyosalpinx D S O	13	1	
Gallstones and adhesions	5	2	
Gall bladder adhesions	5	2	
Gall bladder adhesions'	5		
Nephrorrhaphy right	5	6	
Nephrorrhaphy, right	6	1	
Ovarian cyst	6	1	
Cystic ovary R. S-O	5	1	
Cystic ovaries, R. S O	5	1	
Cystic ovaries, ovariotomy retroverted uterus D ovariotomy	5	1	
Sclerotic ovaries morphin habitué D S-O	6	1	
Prolapsed ovary retroversion R O	5	2	
Perineorrhaphy	5	1	
Perineorrhaphy and trachelorrhaphy	5	1	
Acute cholecystitis and general peritonitis	10	1	1
Endometritis curettement	5	2	
Retroperitoneal abscess	9	1	1
Acute nephritis nephrotomy	1	1	1
Total		40	

APPENDICITIS (RECORD TO DATE MAY 27 1904)

Class.		Cases	Deaths
1	Acute (first attack and operating during attack)	10	1
2	Interval (operation after one attack)	9	
3	Acute (operation during attack) chronic relapsing	3	
4.	Acute (operation during attack) recurring	5	
5	Interval (operation during interval) chronic relapsing	87	
6.	Interval (operation during interval) recurring	29	
7	Unclassified (belonging to above 6 headings)	18	
8.	Abscess (operating during interval)	5	
9	Abscess (operating during attack)	40	5
10	Beginning general peritonitis	19	3
11	Consultant (of which there is no record)	79	
12	Consultant surgeon (of which there is no record)	23	
13	Appendices removed during other operations—		
	Class 2	1	
	Class 3	1	
	Class 5	4	
	Class 6	1	
	Total to May 27 1904	232	9

			Per cent.
Total deaths	9	cases 232	= 3 87
Deduct for *septic nephritis and septic cholecystitis	2	2	
	7	230	= 3 43
Deduct for beginning general peritonitis	2	18	
	5	212	= 2 35
Deduct for acute abscess	5	40	
	0	172	= 0 00

	Cases	Deaths	Per cent.
Beginning general peritonitis	18	3	= 16.66
Acute abscess (delayed cases)	40	5	= 12 5

*One case belonging to class No 1 the other to class No 10

Baldy, in a paper read before the Southern Surgical and Gynecological Association in Atlanta, December, 1903, argued very earnestly this side of the question

Such argument, it seems to me, is contrary to our knowledge of these diseases, at variance with the best clinical experience, and is conducive to incomplete surgery and unsatisfactory results

Kelly, in his classical work on gynecology, gives the opinions of a number of the leading surgeons and gynecologists in this country on this question Most of them were of the opinion that the removal of the appendix, unless markedly diseased, should not be a routine practice, the author agreeing with these

The by-no-means infrequent incomplete cures following pelvic operations where appendices *have been* left, condemning the victim to chronic invalidism, the ever-present anxiety and danger of a severe and fatal attack of appendicitis, have impressed me with the advisability of removing the appendix during all pelvic operations when it shows the least evidence of disease or when it is accessible and can be removed without undue prolongation of the operation or hazard to the patient

Had I an appendix, I would feel that any surgeon opening my abdomen and leaving the organ, if accessible, had grievously sinned against me I entertain this same feeling and a similar opinion for members of my own family Holding such an opinion, entertaining such a feeling for my own loved ones, could I advocate less for the loved ones of others Nowhere is the Golden Rule *more applicable* than in surgery, and the surgeon who does more or less for those who submit their health and lives unreservedly to his skill and honor than he would want done for him or his, under similar circumstances, is recreant to the trust reposed in him, and is unworthy the respect and confidence of honest men and women

CASE 1—Mrs P W G, 25 years old Gave history of having ovaries removed per vaginam one year ago Since then has had repeated light attacks of pain in the McBurney region and in right side of pelvis Chronic indigestion for several years At times has a dragging sensation over right kidney Admitted to St. Joseph's Infirmary June 26, 1903 Has marked tenderness over appendix, slightly movable right kidney uterus free, it and cervix being atrophied

Operation—June 30 1903 Gas ether McBurney gridiron incision, appendix found in pelvis was thickened, very much enlarged, and attached by small adhesions Doyen amputation Layer closure

CASE 2—Miss E S, 35 years old Negative family history *Menstruation began* at 13 years, was regular but always painful, so a curettement was done eight years ago For the past four or five years she has suffered for five days before and five days after menstruation, with often severe pains over left ovary A double salpingo oöphorectomy, June 1903, relieved her of all pelvic pain Dysentery from November to February nine years ago For years she has had general colicky pains lasting from a few hours to a day or so Two years ago was in bed a month with "bilious" colic and suffered great abdominal pain Five months after ovaries were removed she was taken with pain in epigastrium, which became localized in a few hours to appendiceal region Since then any jolting or exercise caused pain in the *left* iliac region A similar attack began ten days ago and pain continued until admitted to St Joseph's Infirmary March 25, 1904

Operation.—March 28, 1004 Gas ether McRae transverse incision with longitudinal opening of peritoneum, enlarged by a transverse cut There were thick, dense adhesions of omentum, passing from cecum into pelvis to stump of removed ovary, a retrocecal appendix was dissected out of adhesions by working over and behind border of friable cecum Appendix tore out of cecum, its lumen being closed This umbilication was covered over by peritoneum and adhesions, a cigarette drain being carried to this point Peritoneum closed with No 1 catgut, silkworm gut being used for the remainder Very little discharge followed patient going home well April 25

CASE 3—Mr W L L, 30 years old, traveling salesman History of typhoid at 7, rheumatism at 10 years of age From five to two years ago he had a diarrhea each spring, ending in a dysentery, all lasting from five to eight weeks, being confined to bed three or four days with the latter Eighteen months before operation he awoke with slight pains in appendiceal region, which soon went to left iliac region and passed off in about five hours No nausea or soreness In two months a similar attack, lasting six hours, another in two months lasting eight hours, etc, an attack about every two months, each getting a little longer Never any nausea or soreness after the third day, until six months ago, when he was in bed ten days with nausea, marked pain in the McBurney region, with a spasmodic pain in rectum, penis and perineum Was sore for a week thereafter Similar attack, lasting six days, two months later with daily formation of gas in cecum since Under stomach specialist for weeks, without relief

Admitted to St Joseph's Infirmary Aug 14, 1902 Appendix could be felt (?) with thickening of cecum urine contained a few casts

Operation—Aug 21, 1902 Gas ether McBurney gridiron Omentum and large intestine only found at wound A median incision was made when stomach and transverse colon came into wound, the latter could not be traced to the left, but seemed to enter pelvis on the right side At first, no small intestine was found, was later located matted in pelvis and collapsed like an obstruction Tracing the bowel for a short distance a small Meckel's diverticulum was found, beyond this intestine was thickened, rough, granular looked tuberculous, and soon became firmly fixed in pelvis surrounded by adhesions, so could not be brought up

Through the McBurney wound, appendix was found in pelvis surrounded by adhesions Doyen amputation done Everything bled freely Abdomen flushed with saline and each wound was closed in layers, a cigarette drain being placed in the lower angles

Patient very much depressed for twenty four hours Rallied and made uneventful recovery In two months weighed more than ever before

CASE 4—Mrs H V J, 41 years old Family history good Oldest child 23 years Was in labor twenty four hours, placenta adherent to right side and had to be removed, was very sick for several days following Never strong thereafter, having a dragging sensation in lower abdomen and pain when wishing to defecate instead of normal reflex Second child 21 years old Had hemorrhage after labor and was in bed five weeks Two years later menses became irregular and she aborted at three weeks, was weak and had a leucorrhea thereafter, and when she walked, hemorrhage returned Two years after abortion was in bed three weeks, at beginning of pregnancy, from weakness Three months prior to labor, was swollen all over" and could not lie down on account of difficult breathing Four years after this labor was in weakened condition, when lacerated cervix and perineum were repaired, she becoming very much better, but could not walk long at a time Was told she had prolapsus uteri For past seventeen years menses have been regular, but she always had a dragging in pelvis and acute, general abdominal pain, which came on irrespective of quietude and lasted one to three hours, being relieved by a hot douche, enema or hot applications to abdomen One year ago was in bed a day with acute pain over appendix and thereafter had a tearing pain in appendiceal region, when she rested on left side, much walking would also cause it

Present Illness—On April 21 was taken with acute pain in the McBurney region, which increased until relieved by morphia six hours later In another six hours pain had returned and increased until bowels acted

Admitted to St. Joseph's Infirmary April 23, 1903 Temperature 100, pulse 85, nauseated, weak, tender over right side of abdomen Rectal feeding until operation, May 10

Operation—Gas ether Considerable débris from curettement Laparotomy Appendix found adherent to right ovary and tube, was much enlarged, brawny, tearing from slightest pressure Appendix was too rotten to make cuff, so a chromicized catgut ligature was tied about same, end cauterized and stitched over Right tube enlarged and thickened, ovary was a cyst, size of an orange, both were removed, the raw surface being closed over and stump stitched to abdominal wall to support the retroverted uterus Layer closure Uneventful recovery

"Now in better health than in twenty years"

CASE 5—Mrs D R W, 33 years old Bilious fever and later dysentery, seventeen years ago Eighteen years ago she fell six feet and was unconscious for several hours and menstruation was delayed for six months For twelve years after marriage she had a continuous leucorrhea, which was profuse at times During summer of 1899 she had abscess of both vulvo-vaginal glands, followed by severe pain over left ovary which continued, at intervals, until the fall, when an application of tincture of iodin and carbolic acid was made to interior of uterus Peritonitis resulted, confining her to bed for two months, opiates being used to relieve pain In January, 1900 left pyosalpinx was removed, after freeing adherent intestines, which formed a roof to that part of the pelvis Was in good health then for a year, when she had la grippe, and tuberculosis was suspected

Present Illness—For two or three years has had attacks of pain in right kidney, lasting from two to three days For a year these have been frequent, with almost constant aching, pain being relieved when she replaced the floating kidney Has eaten little for the past two years The smallest amount of food causes pain in right hypochondriacal region

Operation—March 29, 1904 Curettement, and sphincter divulsed Ferguson incision and delivery of right kidney, which was large, hard, and capsule firmly adherent Posterior flap of capsule stitched to muscles and anterior flap sutured between edges of wound, which was closed with silkworm gut suture a cigarette drain being used

A McBurney gridiron incision was then made, when the cecum and a long appendix, surrounded by adhesions, were found under the border of the liver, the colon passing to left hypochondrium, thence to right iliac region and into pelvis Layer closure and uneventful recovery

CASE 6—Mrs J C H, 35 years old

History—Since she can remember, has had a chronic laryngitis Always a dysmenorrhea, which was not so bad after first child, which is 11 years old Has had hemorrhoids, almost a continuous leucorrhea and backache since birth of this child During second pregnancy, eight years ago, she had a violent pain, like colic, in right side of abdomen, a mass soon developed in the right iliac region which was pronounced a "tubal abscess,' which later "discharged through uterus" while she was pregnant! She was in bed nearly a year At times since, has felt this mass in side of abdomen, had frequent attacks of colic, thought to be ovarian, but was conscious of two distinct kinds Nausea, but no vomiting Has not been able to walk much for several years on account of pain, and riding was torture Amputation of cervix and ligation of piles one year ago

Admitted to St Joseph's Infirmary Jan. 13, 1904 Had right floating kidney and tenderness over appendix

Operation—January 14 Gas ether Ferguson incision and delivery of right kidney, posterior flap of capsule sutured to muscles, anterior flap brought between edges of wound Silkworm gut closure, with drainage McBurney gridiron incision Appendix found in pelvis, surrounded by adhesions and strictured near base Doyen invagination amputation, raw surface closed over and wound closed in layers

These appendices ought to have been removed when the first operations were done, and might have been without difficulty, and far less danger than submitting to second operations necessitated The patients would have been cured, and the operator would have saved himself the discredit of "successful operations that failed to cure the patient"

While laying more stress on removal of the appendices before closing the incisions after pelvic operations, I also want to put on record as holding the same view with reference to other abdominal operations How often is the focus of infection that lights up gall-bladder disease an inflamed appendix! The frequent association of chronic appendicitis and movable kidney is now so well recognized as to hardly require mentioning

Where the two pathologic conditions obtain, the correction of one seldom cures the other If I am not mistaken, I did the first combined operation for removal of the appendix and the anchoring of a movable kidney through the same incision I reported two cases before the meeting of the Southern Surgical and Gynecological Association in Atlanta Both the cases then reported have been kept under observation, and both seem to have been perfect cures

I have latterly, however, preferred to make separate incisions for each operation, as it requires little more time, and the work can be much better done

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FACTORS IN THE MORTALITY OF APPENDICITIS *

JOHN B DEAVER, M D
Surgeon in Chief German Hospital
PHILADELPHIA

Infectious inflammation of the vermiform appendix has occupied the attention of the medical profession for many years, has been discussed and debated at hundreds of society meetings, and has furnished a fertile theme for thousands of good, bad and indifferent medical authors Books have been written on the subject in France, in Germany, in England, and in the United States describing the historic episodes, the pathology, the diagnosis and the treatment of the disease

The vermiform has been cut off, tucked in and turned inside out, the patients have been purged, narcotized, packed in ice or baked in poultices, they have been starved or instructed to walk on all fours like quadrupeds, leucocytes have been gazed on through the barrel of the microscope and tested for glycogen, and the urine assiduously examined for indican, acetone or albumin, and yet, with all this study, all of the examinations, a fatal appendicitis caused by a little 8x1 cm organ has doomed thousands of suffering humanity to an early and untimely end The lack of common sense and ordinary intelligence in eliciting the history of the attack or the neglect of the use of the only instrument of any service in the diagnosis of this disease, the palpating hand of the practitioner, is responsible for much of the mortality

ERRORS IN DIAGNOSIS

Errors in diagnosis are to be considered under two headings

1 The time that elapses between the onset of the disease and the production of sufficient symptomatic reaction to attract the attention of the patient

2 The delay of the physician himself in reaching a diagnosis

In regard to a period of latency, it is undeniable that in a few cases the most prompt diagnosis and early operation discloses advanced pathologic changes, with a thin, seropurulent fluid throughout the peritoneal cavity The appendix may show little macroscopic evidence of disease, or may be perforated and gangrenous Many of these patients recover, some of them die, and in the latter event neither the practitioner nor the surgeon can be reproached for an error in judgment They were operated on at the time of election, and were the few exceptions to the rule Some patients suffer habitually from colicky pain in the abdomen, due to intestinal fermentation and the accumulation of flatus some women suffer abdominal pain at the menstrual epoch, many patients have acquired the too ready habit of using laudanum or paregoric for every abdominal ache or pain, and especially when the sufferer is a child

In such the onset of serious symptoms may not have given warning that something unusual and more severe has occurred until the disease has advanced into the later stages It is the duty of the practitioner to continually and persistently impress on his patients the danger that lies in the uncontrolled use of opiates, particularly in children, in whom the percentage of the more severe grades of appendicitis is greater than in adults

The failure to make an early diagnosis of acute appendicitis is responsible for most of the factors entering into the mortality of the disease With a nearly unanimous agreement among experienced surgeons that operation is indicated in the early hours of the attack, the great importance of prompt diagnosis can be clearly perceived

In every sudden abdominal pain the probability of an appendicitis should be borne in mind, and no other diagnosis considered until that disease can definitely be excluded

An abnormal position of the appendix may make the diagnosis difficult at times, and in certain of the fulminating types when there is a very obscure history, it is often difficult to locate the source of the peritoneal infection Salpingitis, cholecystitis, perforated gastric ulcer, acute pancreatitis, intestinal obstruction, mesenteric thrombosis, enteric fever, basal pneumonia diaphragmatic pleurisy and a few other conditions are often confused with appendicitis, but the history, the onset and the sensation experienced by the palpating hand will usually differentiate the true condition

The subject of the differential diagnosis is outside the province of this paper

In children abdominal pain is of such common occurrence that an appendiceal colic is very apt to be unrecognized This is especially true in the first year of infancy, and cases with comparatively mild local symptoms are certainly rarely diagnosed If the process goes on to abscess formation, the condition is more readily discovered if the possibility of an appendicitis is not forgotten

One of the greatest fallacies which has ever been propagated to account for appendiceal symptoms is rheumatism In an extensive experience with appendicitis I have always found true appendiceal symptoms to be due to a diseased appendix in every case, even where rheumatism has been held responsible for the symptom-complex prior to operation Without dilating further on the diseases that may be diagnosed when appendicitis is the true lesion, it may be well to consider why such confusion continually arises

Acute appendicitis in the great majority of cases is easy of perception, even in the earliest stages The disease is so prevalent, the cases observed by every practitioner of medicine so numerous, that one can but wonder at the continuous stream of pus-bearing abdomens that flow into a large hospital yearly Every physician

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard, Charles A Powers and J E Moore

has had one case of severe acute appendicitis, which may have caused difficulty in diagnosis, has referred the patient to a surgeon, stood beside the operating table and observed a highly inflamed appendix, perhaps gangrenous, removed And yet this same physician a few months or years later is called to see another patient in the throes of appendiceal colic, knows well what the disease may lead to, and yet gazes, fascinated, as if by a rattlesnake, temporizes and dallies until the right iliac fossa becomes "ripe" and filled with pus

The history of the onset and early hours of appendicitis and the results of palpation of the abdomen are signboards pointing the way, and if misinterpreted the occurrence of peritonitis, even though local in extent, may confuse the most able clinician To paraphrase Dr Mumford "Do not coquet with an infected appendix, cut it out and you will never regret it"

But if the hemocytometer and microscope are used to diagnose appendicitis to the practical exclusion of clinical experience, then, indeed, will the mortality of appendicitis be in the ascendency, and, furthermore, if the laboratory is wholly relied on to determine the time of operation, then will there be a still greater increase in the mortality I do not wish to be considered as opposing scientific aids to practical medicine, but rather as objecting to the exaggeration of their importance in the diagnosis of acute surgical diseases at a time when operation promises a nearly absolute cure

Twenty thousand leucocytes is considered by most hematologists to be the minimum count to diagnose pus with certainty, but by the time these figures have been reached, the abscess is crying out to be released Only recently, in a French surgical journal, it was stated that "those who doubt the clinical value of the leucocyte count are those who have been content with an occasional count The figure must remain at 25,000 or above for several days at least to affirm the positive presence of pus The leucocytosis increases if the abscess has a tendency to spread and when the abscess perforates into the abdominal cavity the leucocytosis subsides at first, but rises again as peritonitis develops" I can not imagine a surgeon in this country waiting in cold blood for peritonitis to develop It is just this class of statement to which I refer in my remarks

The concluding lines of an editorial in a recent number of THE JOURNAL of the American Medical Association exactly states my views "Some of the old-trained delicacy of observation could accomplish as much, with less waste of time, as is now accomplished by means of intricate mechanical appliances"

METHOD OF TREATMENT

The next question that arises after the diagnosis of appendicitis has been established, is that concerning the method of treatment to be pursued We must face a condition not a theory, because the issue of an attack of appendicitis can not be foretold with even the slightest amount of assurance, nor can the nature of the pathologic lesions of the appendix be deducted from the clinical manifestations We are not governed by the same reasons that influence us to perform the radical operation for the cure of a hernia, or for the removal of the uterus for a fibromyoma In appendicitis we face the probable consequences of those dreadful factors in the mortality of the disease—suppuration, gangrene and perforation of the appendix, with varying lesions of the peritoneum Early operation is, therefore, a conservative, not a radical, procedure

To delay operation until there is evidence of the presence of pus, to defer it also if there be any doubt as to the pus formation, or to wait until the leucocyte count rises or falls, is unjustifiable and nearly criminal

Such statements, however, have become hackneyed, as I believe that every surgeon of any experience, in this country at least, advocates the immediate operation if the case is seen early

The principle may be stated That in every case of appendicitis, seen early, operation is indicated regardless of the mildness of the attack and regardless of the severity of the attack in the absence of a spreading peritonitis

In stating as the principle of the treatment of appendicitis that the diseased organ should be removed immediately if the diagnosis has been made early, I am not unmindful of the fact that, speaking broadly, the attending circumstances are of great significance in many cases in determining the treatment to be adopted It is sometimes impossible to institute early operative procedures for one of several reasons The patient may not live within reach of a competent surgeon, he or his family may not be willing to have surgical treatment pursued until it has become evident that the patient's only chance of recovery is by operation, or there may be some serious underlying disease, such as advanced nephritis, diabetes, tuberculosis, etc, that forbids active measures Under such circumstances expectant or so-called medical treatment is the only alternative

Operation is contraindicated in those cases of diffuse peritonitis in which the abdomen is distended, the temperature high, the pulse rapid and of high tension, the patient's expression most anxious and indicative of very serious intra-abdominal infection, the bowels constipated and unable to cause the expulsion of flatus and in which vomiting is continuous, and tenderness is diffuse over the entire abdominal wall The tongue is dry and brown, the skin dry, and frequently delirium is shortly followed by coma and death

In another class of cases the features are pinched the skin cold and clammy, the temperature is normal or subnormal, the pulse rapid and thready, the leucocytes are below normal in number and the abdomen hard and rigid throughout, without much distension In this type of diffuse peritonitis the patient is in a state of collapse, and operative interference is almost always followed by a fatal termination

In every case of acute appendicitis the peritoneum reacts to the irritant and secretes a serous effusion, the quantity of which depends on the amount and virulence of the bacteria or their toxins, or both Nature then offers two measures by which the toxins may be rendered harmless and the patient recover The first and most common is by the formation of protecting and encircling adhesions which, for a time a least, confine the infection to a localized area and thereby limit the amount of absorption But sooner or later the purulent products extend in the direction of least resistance, thus offering a much wider field of absorption Nature does her best in the beginning, but the aseptic scalpel of the surgeon must complete the cure by providing an external opening for the pus

The other method I referred to consists in the peritoneum reacting to the irritation by its entire effusing surface causing the accumulation of an amount of fluid proportionate to the irritation, diluting the toxins and furnishing an antitoxin which endeavors to check bacterial invasion after perforation of the appendix (Moszkowicz) If the operation has been done in time, this effusion explains the rapid recovery of the peritoneum from infection after removal of the appendix.

If operation is delayed, the swollen belly, filled with thin serous fluid, so often encountered at the operating table, shows that there is no tendency to form adhesions, and that large amounts of virulent bacteria or their toxins are invading the abdominal cavity. Failure to remove a collection of pus in the right iliac fossa, no matter where the locality nor what the quantity of pus, is always a source of the greatest danger and exerts a powerful influence on the death rate of acute appendicitis.

Nearly two years ago I placed a number of cases of appendicitis with abscess on the rest or starvation treatment, without obtaining any results beyond an aggravation of the symptoms and an increase in the mortality. It was observed that even the etherization of these cases was more difficult than usual, and I have frequently remarked to my students that the way a patient takes ether is often an index as to the gravity of the intraperitoneal lesion. After opening the abdomen, it was a serious problem how to dispose gauze pads before opening the abscess, there were so many adhesions, not so complete as to effectually wall off the pus, but enough to interfere with the placing of the gauze. It was also found that the infected coils of intestine were so friable that the breaking of any adhesions would cause the serous coat to peel off. The latter remark might suggest that in the presence of a walled-off abscess the peritoneal cavity should not be opened, but it is often impossible to gain access to these abscesses in any other way, situated as they are behind the cecum and colon and well to the median line side of the flank.

I do not imply that every case of peritonitis must be operated on, but, on the contrary, as I have previously referred to in this paper, that operation in the presence of an acute general peritonitis of seventy-two or more hours' duration, is attended by great risks to life, and, therefore, it is often wise to defer operation in the hope that the inflammatory process will become localized. Adhesions may form about the source of infection, and the peritoneal effusion take care of the general cavity.

Such a result is best promoted by rest and the restraint of peristalsis. When these cases are operated on at the end of three or four weeks, or at a time dependent on the degree of recovery from the acute attack, the condition of the belly cavity in my experience does not agree with that found by some writers. Instead of reducing the operation to one like the ordinary interval operation for appendicitis, I have found it one of the most difficult. Inflammation of the peritoneal cavity of such severity as to warrant delay in operation must be accompanied by effusion and exudate and the organization of such pathologic tissue is certainly one of connective tissue proliferation with the production of numerous adhesions.

When a nearly normal peritoneum is discovered at the interval operation, with perhaps a small localized abscess, it is quite apparent that the primary lesion could not have been a severe one. Bowel necrosis from pressure of pus, metastatic abscess of the liver, suppurative pylephlebitis, purulent lymphangitis and lymphadenitis, septic pneumonia, parotitis and pyemia are well-known to all of you as occasional results of late operation.

I have referred to the fact that difficulty in etherization is in direct relation to the gravity of the abdominal lesion. The board-like rigidity of the abdominal muscles never relaxes, the patient becomes cyanosed, the bronchi filled with mucus, and at times even respiration ceases. These cases influence the mortality by insufficient relaxation of the abdominal muscles impeding the manipulations of the surgeon, making gauze packing difficult and favoring the spread of infection.

Following operation the irritation and congestion of the bronchi favor their infection and the production of an inspiratory pneumonia. For this reason it may be argued that ether is not the best anesthesia for such cases, but after a thorough trial of nitrous oxid gas, I find the combination of ether and oxygen, always followed by oxygen, to be the most satisfactory.

The presence of pus is by no means necessarily fatal if the operator is experienced in dealing with this class of cases. The salvation of the pus case lies in proper drainage with protection of the healthy peritoneum during and after the operation. Successful drainage depends on a sufficient amount of gauze properly placed with a glass tube in the pelvis if necessary. Gauze that does not drain is more harmful than beneficial, too much gauze, and especially if improperly placed, only adding to the number of adhesions and to the chances of an intestinal obstruction shortly after operation. The management of the gauze is also an important factor in the mortality of appendicitis. The time and method of its removal are important points to be considered in every case in which gauze has been employed. The tendency is to remove the gauze entirely too soon, and as this always requires force, adhesions are broken up, and infection is liable to be spread from the secreting pus cavity. To remove a gauze drain at the end of twenty-four or forty-eight hours is, in the majority of cases, removing the main hope of the patient.

Where a large localized collection of pus is accompanied with what appears to be a beginning general peritonitis with injection of the serous coat of the bowel and a considerable quantity of cloudy exudate, the question of general irrigation is to be considered. In the majority of cases the entire peritoneum is not infected and this membrane can better take care of diseased products unaided. I rarely irrigate such an abdomen.

Failure to explore the pelvis is another factor of no little importance. In very many instances a collection of cloudy serum or pus may occupy the pelvis, and unless discovered and proper drainage provided proves a menace to the patient. Secondary collections in other localities must be evacuated and drained.

Acute intestinal obstruction following operative interference in acute appendicitis is one of the most serious of the sequelæ of this disease. The gravity of the condition depends on the fact that a second operation is always urgently demanded. In the presence of an infected area of the peritoneal cavity, and with the already weakened resistive power of the patient to shock, it would naturally follow that the mortality of acute obstruction is high. Following the evacuation of a circumscribed abscess, the exudate which has served the useful purpose of restricting the spread of infection becomes a menace by its liability to organize into connective tissue. Such adhesions may give rise to disastrous intestinal complications. By their mere adhesion to portions of the bowel they inhibit peristalsis, and by their contraction cause intestinal obstruction. Injury to the free edges of the omentum or mesentery may result in their adhesion to the small bowel with a consequent obstruction.

The greatest number of acute obstructions of the intestine follows those cases in which an abscess existed at the time of first operation and in which drainage was used This furnishes a most potent argument in favor of the early operation with removal of the appendix before the extension of the inflammation gives rise to a serofibrinous exudate As I have remarked in a previous paper, "walled-off" is an expression often used by physicians as a term of congratulation, but it also denotes a most fertile condition for a future intestinal obstruction

I find obstruction to follow acute appendicitis in about 1 5 per cent of cases, and to be due, of course, primarily, to bands of adhesions, but also predisposed to by too early and injudicious feeding of the patient The resulting increased peristalsis and general intestinal disturbance cause congestion and swelling of the intestinal wall further narrowing the lumen of the bowel

Fecal fistula may follow cases in which an abscess collection causes pressure necrosis on the bowel, when the cecum is directly involved in a gangrenous process, or where the entire appendix has not been removed While such fistulæ do not directly have great influence in increasing the mortality, yet the operation which must later be undertaken for their repair is by no means devoid of risk

Finally, the great percentage of extensive drainage cases are followed by hernia for which mechanical appliances are of no avail Hernia requires a secondary operation which is more formidable than the primary one

In conclusion, I would again urge on you to advocate the early operation for appendicitis The tendency of many surgeons at the present time to occupy a sort of middle ground should not be imitated by the rising generation I know of successful surgeons who operate immediately when a case reaches the hospital, and yet who formulate and teach their students so many rules for the treatment of appendicitis that a text-book of surgery must be carried around in the medicine case Furthermore, an expression of opinion from members of a surgical association is always of interest to the general practitioner Too often the discussion of a paper is limited to congratulatory remarks, surgeons whose teaching is of infinite value preferring to praise or conciliate a friend rather than to boldly announce their own ideas and practice

DISCUSSION

ON PAPERS BY DRS M'COSH, M'RAE AND DEAVER

Dr. Ernest Laplace, Philadelphia—I believe that in every fatal case there was a time when, if the operation had been performed, the patient's life might have been saved, but somebody has been guilty of allowing that moment to pass by I deny that any one can establish the fact that there is pus in the abdominal cavity, that there is a developing case of peritonitis, or can deny the occurrence of fulminating appendicitis If we accept this it follows that by delay we are in a great state of uncertainty as to the future of that patient Taking this for granted, it is useless to deny the necessity of operating during the course of the disease You should do the operation and use common sense, according to the rules on which our knowledge of surgery is founded In every case, when possible, I believe in the dry method of operating I drain and pack, and remove the gauze on the eighth day When peritonitis occurs, one is face to face with another problem Another disease has stepped in, and that is general septicemia The patient may die from general septicemia although the local peritoneum has undergone improvement A patient may die with tetanus even though his thumb has been amputated These cases should no longer exist when a primary operation has been performed I treat general peritonitis on the same common sense principles that I would erysipelas I watch it continuously and treat it locally I flush with sterile water I wish to say that the day has come when we must abandon the saline solution, because it may irritate the inflamed peritoneum I have satisfied myself as to this absolutely by experiments on a man with one good eye and one bad eye The solution irritates the inflamed eye but not the healthy one I practice repeated irrigations after the operation through tubes above and below and in each lumbar region Leucocytosis is of no help to decide when to operate Immediate operation is generally indicated If a man drops into the water, struggles and finally disappears, will you try to save him or will you say he will be up again and we will save him then? Palpating with the hand is the only true test of an underlying irritation and inflammation This reveals the rigidity of the muscles of the abdomen over the seat of irritation and points to immediate operation

Dr J E Summers, Jr, Omaha—Diaphragmatic pleurisy is sometimes in the way of diagnosing appendicitis, particularly in children, but I believe it can be very readily recognized In a number of cases, in endeavoring to elicit the physical signs, I have found almost complete absence of the respiratory murmur over the lower part of the right lung In such a case one can say that he has a pleurisy to deal with It is usually in pleuropneumonia that the pleuritic elements largely predominate Dr McCosh did not refer to typhoid fever as a complicating factor in making the diagnosis, the general symptoms are usually more severe than the local ones, but you do get localized symptoms on pressure as in appendicitis, but not so characteristic As to Dr McRae's remarks, I would say that if the difficulty for which the abdomen is opened is complicated by appendicitis the appendix should be removed, otherwise not As to Dr Deaver's paper, I am almost too modest to discuss it on the adverse side I did my first operation for appendicitis nineteen years ago and since that time I have been on all sides of the fence regarding the time for operation In later years I have taught that Deaver is too radical, and statistics will prove that our mortality is unnecessarily high if we follow his advice When the disease is progressing, and I am convinced of the symptoms of perforation, I operate with good results If we operate on the third, fourth or fifth day we lose too many patients, whereas if we do not operate, but go according to the teaching of Dr Ochsner, many more cases recover Statistics in my community show that this is so Since we have stopped following Dr Deaver we have obtained better results I am glad to see that Dr McCosh has become more conservative Perhaps others will follow him in the adoption of the Ochsner treatment It seems foolish for us to discuss Dr Deaver's paper, but maybe he has not yet told us the way to do the operation

Dr F L Hupp, Wheeling, W Va —It is an unfortunate fact, but one which we are obliged to accept, that all cases of appendicitis do not get well One of the factors determining a fatal issue, where there has been a beginning diffuse, septic peritonitis antedating the surgical interference, is a continuance of this process Of the seven cases of this kind that have come under my care in recent years and been operated on, two have died in this way Practically all other deaths in these cases were a result of well known and recognized causes but within the past four weeks there has come to my notice a case of appendicitis which presents a unique feature in these mortality factors, so far as my experience goes A boy of 14 years of age was admitted to my service in the City Hospital of Wheeling, W Va , who had been treated by his family physician for typhoid fever for a period of eleven days prior to admission His symptoms seemed to have been typical up until the tenth day, when there was discovered an induration and localized tenderness in the right iliac region On the day of admission, May 6, under chloroform narcosis the usual incision was made and about an ounce of very offensive pus was removed from the retrocecal region In the washing there escaped a tubular segment of the appendix vermiformis, much resembling a macerated piece of macaroni A suspiciously dark area was detected over the cecum, but because of the profoundly collapsed condition of the patient no further interference was deemed advisable Well directed drainage was established and the patient removed from the table Forty eight hours after the operation the dressing was repeatedly saturated with a dark, offensive, coffee ground fluid, and at times there seemed to be some fresh looking blood with the exudate The drainage strips were removed and there welled from the depths of the wound a quantity of decomposed dark blood clot Collapse and death followed three days after the operation The real interest in this case centers in the autopsy The cecum, buried in a mass of rather firm adhesions was the seat of a gangrenous perforation sufficiently large to admit two fingers No remnant of the appendix was discernible A very extensive extravasation of old decomposed blood was found distending the cecum, ascending colon and part of the ileum Peyer's patches exhibited the typical typhoid lesion and an eroded vessel in the base of one of these ulcers demonstrated the seat of the hemorrhage and the cause of death

Dr. A Jacobi, New York City—I have not operated for anything that looked like appendicitis or perityphlitis for twenty years, so that I certainly have no right to speak of the operation as such Still I have seen a great many cases of appendicitis and have been present at a number of operations What I have seen is a great many cases of sudden onsets with rapid pulse and high temperatures, which when left alone were better prepared for operation at the end of a week, and there are many surgeons of the same opinion I recall a case that I saw recently with several other physicians in which some of us desired an immediate operation A surgeon was called in, who stated that if he operated on the case in its present condition with the high temperature and the state of collapse, the operation might be successful but the patient would die He operated a week afterward and the patient recovered I have seen a number of such cases operated on at the end of a week and they recovered On the other hand we see many cases of appendicitis get well under what is called medical treatment That is not infrequent with children who, though they may have other attacks, still recover and after growing up never have another attack I do not believe that there should be for all cases one and the same rule What I am more interested in is the diagnosis, and that we are told by Dr McCosh, is sometimes very difficult Eight weeks ago I was called to see a child 4 years old who had been ill two days. There was a physician in attendance and two consultants beside myself There were very few symptoms, but appendicitis had been mentioned at first by the family physician None of us was ready to make a diagnosis of appendicitis The child had vomited three or four times a day for two days and there was some diarrhea The tendency among the doctors was to call it gastroenteritis There was very little pain and all that I could elicit was on the left side of the transverse colon. It appeared to me to be a pressure pain, as it was not present fifteen minutes afterward There was no muscular rigidity over the appendix nor any pain when pressure was suddenly discontinued Meltzer's symptom was absent, there was but little tympanites I saw no reason to diagnose appendicitis and one of the famous surgeons of New York was called in and also said that it was not appendicitis and that there was no reason to operate Two days afterward the child died, and the postmortem showed an abscess and many adhesions There are cases in which no diagnosis can be made as Dr McCosh has told us, either by the medical or the surgical man. I have no particular reason for recalling this case except that I have been conscience-stricken all the time and still I do not know how to avoid a mistake when there are no symptoms pointing unmistakably to appendicitis Unfortunately, such doubtful cases do occur

Dr. Henry O Marcy, Boston—It is quite eighteen years since my first operations for appendicitis During this period, both in public and private service, my operations have been too numerous to demand statistical tables, and yet not one of the entire series but has made an easy recovery where the appendix had not ruptured prior to operation Experience is now ample on which to formulate rules for surgical guidance I am not quite ready to say, 'When in doubt, operate" The wise surgeon makes an early diagnosis It often demands heroism to be guided by the fact that the sins of omission are to be judged on the same plane as the sins of commission

Dr William H Wathen, Louisville, Ky—Dr Deaver praises the general surgeon in his work in appendicitis at the expense of the gynecologist, but he fails to tell us that the basic principles of all successful abdominal surgery were evolved from and made eternal in the work of the gynecologist The gynecologist taught the general surgeon the underlying principles that to-day are held sacred in all intraperitoneal surgery, and this encouraged us to efforts in the application of surgical treatment to the diseases of the appendix, gall bladder, bile ducts, stomach, duodenum, pancreas and other abdominal structures It is true that the general surgeon has done much in perfecting a technic in surgery of the appendix and upper abdomen, for which we give him much praise, but this improved mechanism in operating was made possible by the conditions that preceded his advent into the peritoneal cavity, We include in our American Gynecological Society every disease in the abdominal cavity which is treated by the general surgeon Then let the gynecologist and the general surgeon unite in efforts to evolve the best methods in the diagnosis and therapy of diseases in the abdominal cavity, for there is no consensus of opinion on many vital questions, and we have much to learn and much to forget While it is generally agreed that the appendix should be removed if the patient can be operated on before the inflammation has extended to the adjacent peritoneum, and that the operation is also indicated between the attacks, there is no agreement as to what should be done in all acute cases where there is a periappendiceal septic involvement Dr Ochsner treats these cases by stomach lavage, and claims results far better than he had obtained by operation while Dr Deaver claims the reverse in his work, and as these gentlemen have had much experience, this difference of opinion and practice must be carefully considered and logical conclusions accepted I am sure I have had deaths in operations for appendicitis in acute cases where adhesions had formed, and where I opened the abdomen immediately over the infected area, because I could not intelligently separate adhesions and successfully protect the surrounding peritoneum from infection By making the incision to the left and beyond the infected area, splitting the rectus muscle, or opening through the linea alba, we may isolate infection and intelligently treat pathologic conditions In diffuse suppurative peritonitis, in appendicitis, stomach or intestinal perforation, gall bladder rupture and visceral wounds, my experience and observation have taught me that we may expect better results where we avoid the additional peritoneal irritation necessarily resulting from saline irrigation or extensive sponging After thorough irrigation and sponging, much septic matter will remain in the cavity, and the added traumatism to the peritoneum will so impair its resisting powers as to encourage the more rapid multiplication of pathogenic bacteria The mortality will be less if we operate on such cases quickly Do not irrigate, do but little sponging, and drain from the lowest part of the cavity by a large gum tube, thus removing intraperitoneal tension and thereby increasing resistance to further bacterial multiplication and invasion I believe that much of the mortality in these cases is the result of too much irrigation and sponging and insufficient drainage If the infection is virulently streptococcic, the cases will die under any treatment, but otherwise most of them will recover if treated as I have suggested if the operation is not too long delayed

Dr. Ernest Laplace (replying to Dr Wathen)—I stated that where pus extends all over the peritoneum and the inflammation is general, we can not thoroughly cleanse the peritoneum at the time of the operation In these cases only do I advise repeated irrigations by the method I have introduced.

Dr. A J Ochsner, Chicago—I would say that there are two classes of cases of acute appendicitis in which it is sometimes difficult to limit the infection to the vicinity of the appendix because of the absence of a sufficiently large omentum testine follows those cases in which an abscess existed at the time of first operation and in which drainage was used This furnishes a most potent argument in favor of the early operation with removal of the appendix before the extension of the inflammation gives rise to a serofibrinous exudate As I have remarked in a previous paper, "walled-off" is an expression often used by physicians as a term of congratulation, but it also denotes a most fertile condition for a future intestinal obstruction

I find obstruction to follow acute appendicitis in about 1 5 per cent of cases, and to be due, of course, primarily, to bands of adhesions, but also predisposed to by too early and injudicious feeding of the patient The resulting increased peristalsis and general intestinal disturbance cause congestion and swelling of the intestinal wall further narrowing the lumen of the bowel

Fecal fistula may follow cases in which an abscess collection causes pressure necrosis on the bowel, when the cecum is directly involved in a gangrenous process, or where the entire appendix has not been removed While such fistulæ do not directly have great influence in increasing the mortality, yet the operation which must later be undertaken for their repair is by no means devoid of risk

Finally, the great percentage of extensive drainage cases are followed by hernia for which mechanical appliances are of no avail Hernia requires a secondary operation which is more formidable than the primary one

In conclusion, I would again urge on you to advocate the early operation for appendicitis The tendency of many surgeons at the present time to occupy a sort of middle ground should not be imitated by the rising generation I know of successful surgeons who operate immediately when a case reaches the hospital, and yet who formulate and teach their students so many rules for the treatment of appendicitis that a text-book of surgery must be carried around in the medicine case Furthermore, an expression of opinion from members of a surgical association is always of interest to the general practitioner Too often the discussion of a paper is limited to congratulatory remarks, surgeons whose teaching is of infinite value preferring to praise or conciliate a friend rather than to boldly announce their own ideas and practice

DISCUSSION

ON PAPERS BY DRS M'COSH, M'RAE AND DEAVER

Dr Ernest Laplace, Philadelphia—I believe that in every fatal case there was a time when, if the operation had been performed, the patient's life might have been saved, but somebody has been guilty of allowing that moment to pass by I deny that any one can establish the fact that there is pus in the abdominal cavity, that there is a developing case of peritonitis, or can deny the occurrence of fulminating appendicitis If we accept this it follows that by delay we are in a great state of uncertainty as to the future of that patient Taking this for granted, it is useless to deny the necessity of operating during the course of the disease You should do the operation and use common sense, according to the rules on which our knowledge of surgery is founded In every case, when possible, I believe in the dry method of operating I drain and pack, and remove the gauze on the eighth day When peritonitis occurs, one is face to face with another problem Another disease has stepped in, and that is general septicemia The patient may die from general septicemia although the local peritoneum has undergone improvement A patient may die with tetanus even though his thumb has been amputated These cases should no longer exist when a primary operation has been performed I treat general peritonitis on the same common sense principles that I would erysipelas I watch it continuously and treat it locally I flush with sterile water I wish to say that the day has come when we must abandon the saline solution, because it may irritate the inflamed peritoneum I have satisfied myself as to this absolutely by experiments on a man with one good eye and one bad eye The solution irritates the inflamed eye but not the healthy one. I practice repeated irrigations after the operation through tubes above and below and in each lumbar region Leucocytosis is of no help to decide when to operate Immediate operation is generally indicated If a man drops into the water, struggles and finally disappears, will you try to save him or will you say he will be up again and we will save him then? Palpating with the hand is the only true test of an underlying irritation and inflammation This reveals the rigidity of the muscles of the abdomen over the seat of irritation and points to immediate operation

Dr J E Summers, Jr, Omaha—Diaphragmatic pleurisy is sometimes in the way of diagnosing appendicitis, particularly in children, but I believe it can be very readily recognized In a number of cases, in endeavoring to elicit the physical signs I have found almost complete absence of the respiratory murmur over the lower part of the right lung In such a case one can say that he has a pleurisy to deal with It is usually in pleuropneumonia that the pleuritic elements largely predominate Dr McCosh did not refer to typhoid fever as a complicating factor in making the diagnosis, the general symptoms are usually more severe than the local ones, but you do get localized symptoms on pressure as in appendicitis, but not so characteristic As to Dr McRae's remarks, I would say that if the difficulty for which the abdomen is opened is complicated by appendicitis the appendix should be removed, otherwise not As to Dr Deaver's paper, I am almost too modest to discuss it on the adverse side I did my first operation for appendicitis nineteen years ago and since that time I have been on all sides of the fence regarding the time for operation In later years I have taught that Deaver is too radical, and statistics will prove that our mortality is unnecessarily high if we follow his advice When the disease is progressing, and I am convinced of the symptoms of perforation, I operate with good results If we operate on the third, fourth or fifth day we lose too many patients, whereas if we do not operate, but go according to the teaching of Dr Ochsner, many more cases recover Statistics in my community show that this is so Since we have stopped following Dr Deaver we have obtained better results I am glad to see that Dr McCosh has become more conservative Perhaps others will follow him in the adoption of the Ochsner treatment It seems foolish for us to discuss Dr Deaver's paper, but maybe he has not yet told us the way to do the operation

Dr F L Hupp, Wheeling, W Va —It is an unfortunate fact, but one which we are obliged to accept, that all cases of appendicitis do not get well One of the factors determining a fatal issue, where there has been a beginning diffuse, septic peritonitis antedating the surgical interference, is a continuance of this process Of the seven cases of this kind that have come under my care in recent years and been operated on, two have died in this way Practically all other deaths in these cases were a result of well known and recognized causes, but within the past four weeks there has come to my notice a case of appendicitis which presents a unique feature in these mortality factors, so far as my experience goes A boy of 14 years of age was admitted to my service in the City Hospital of Wheeling, W Va, who had been treated by his family physician for typhoid fever for a period of eleven days prior to admission His symptoms seemed to have been typical up until the tenth day, when there was discovered an induration and localized tenderness in the right iliac region On the day of admission, May 6, under chloroform narcosis, the usual incision was made and about an ounce of very offensive pus was removed from the retrocecal region In the washing there escaped a tubular segment of the appendix vermiformis, much resembling a macerated piece of macaroni A suspiciously dark and severe depression Pus retained under pressure is rapidly absorbed, whether it be in the peritoneal cavity or elsewhere, and to stop absorption all that is necessary is to relieve the tension If we have an acute phlegmon of the leg we do not wash it out, sponge it, scrape it, or get our hands or feet into it, we simply relieve the tension by opening it, and we have just that to do in peritoneal infection and in addition close the opening from which the infective material is leaking There should be no washing, no sponging, no handling of the viscera I advise putting a rubber drain down into the vesico-rectal fold and placing the patient in the semi sitting position I am sorry to differ from Dr Laplace, who gets results from washing, while I get them without washing I do not question his results, but I should have to see every detail of his technic and of his treatment before I would consider changing I do not care what the technic is if the results are secured I have operated on every case of general suppurative peritonitis that has come under my charge in the period mentioned with the above results

Dr. Joseph Price, Philadelphia—Dr Murphy tells you “to get in promptly and play the game,’ which is just what you should have done in surgery many years ago and the mortality would have been greatly lessened or *nil* Dr Ochsner's paper in Saratoga has had a very bad influence In Dr Murphy's series of sixteen incised perforations he lost one He would have saved this case if Dr Ochsner had not read or published his paper, and probably favored the delay I read a paper some years ago on general suppurative or septic peritonitis, and the Chairman left the chair in this Section and said he could not let it go unchallenged Dr Deaver does not lose cases that walk the streets without appendicitis Such cases as Dr Ochsner reports in his first series of 500 (borborygmus) none should have died Dr Deaver never loses such cases nor does he operate for borborygmus My mortality in 600 cases was four cases The four deaths and the quite universal custom of drainage was largely due to the very strong influence of Dr Ochsner's paper at Saratoga on the general practitioner The gynecologists have taught you all you know If you want to know anything about drainage come to Philadelphia Many of us have lived through our period of usefulness, beyond the age of [illegible]0 Do not let the youth of the country die in such large numbers A few years ago 400 deaths from appendicitis were recorded in Chicago in one year Since then Chicago has probably lost 1,600 a year from appendicitis If we put the mortality at 100 to the state (very light) we have a death rate in the very future of our population of 5,200 a year No one should ever be permitted to die of appendicitis There is no therapeutics in its management, no starvation, no sweet oil, no icebag—only clean early surgery following the diagnosis which is easily made This sharp discussion reminds me strongly of the old discussions on this subject many years ago Many of us fought the battle all over the land and thought the last word had been said, and rejoiced that the natural history and treatment had been established for all time

Dr. Robert T Morris New York City—Should we remove the appendix when the abdomen is open for some other cause? Our best statistics occur among people who have no occasion for any sort of surgical operation The next best statistics occur among people who require the least amount of surgical work The logical deduction is that the easier we allow a surgical patient to escape the better will be the record Leave the appendix alone until it is infected, and then lose no time in having it inspected That couplet expresses my views There are three chief objections to the plan of removing the appendix when the abdomen is open for some other cause First, it prolongs the other operation Next the patient's resistance factors may not have been called out to meet the little special infection that may occur from opening the lumen of the bowel Third, if the procedure is taught by competent men it will be carried out by some who will manage to get a death rate out of it Dr Deaver speaks about “kindergarten drainage in New York ” It is better than committing taxidermy on your patients but there are many operators in New York who agree with Dr Deaver Some of those who have arrived at the point of making ‘kindergarten drainage have such good statistics that they are accused of removing normal appendices in order to get such results Gauze packing in the peritoneal cavity is a foreign body, and harmful and unnecessary Take ten healthy policemen from the street to day and put half a yard of gauze in the abdomen of each one, and we shall probably lose one or two of them If strong, healthy men can not bear the presence of gauze in the peritoneal cavity how can weak appendicitis patients bear it? Do not commit taxidermy on appendicitis patients Some of us do not use any gauze packing at all in the peritoneal cavity

Dr Mordecai Price, Philadelphia—Within the walls of this room are men who have seen me open 100 cases of general peritonitis and gangrene from appendicitis, and with thorough washing only two or three have died in the state of New Jersey Probably in Dr Ochsner's cases his treatment is all right In the hands of the gentlemen throughout this country it has been anything but satisfactory Appendicitis has no place in our work except for immediate removal I remember the case of a young lady who was almost dead I could find no tumor but a pronounced resisting point, and I diagnosed appendicitis I said I should remove the appendix within the next twenty minutes and did so, when I found it gangrenous beyond repair I remember another case which had been ill for five days There was a pronounced resistance over the appendix and I advised immediate operation The woman had not had a pulse over 80 nor any temperature I operated and found a gangrenous appendix although she had not seemed to be very sick Dr Jacobi asked about diagnosis When you get hold of a patient where you can not tell just exactly what's the matter, and there is a slight resistance over the appendix, take it out

Dr. Deaver—Dr Summers evidently misunderstood me I made the statement that operation should be done in all cases when the patient was seen early I have advised delay in certain cases in the presence of a general septic peritonitis I do not take out the appendix in all cases Dr McCosh advises that we wait until recovery from the attack, but I consider this dangerous practice in certain cases Dr Jacobi, like many medical men, has not the courage to decide that the case belongs to the surgeon Many young doctors never realize the value of palpation There is no doubt but that had the Jacobi case been seen by Dr Ochsner, Dr Price or others, the diagnosis would have been made Better take out a healthy appendix and have the case get well than leave a diseased appendix and let the patient die I could never understand this question of diagnosis How do these distinguished people make such errors? The diagnosis is usually made by my internes and it is rarely necessary for me to walk into the surgical ward to do this If internes can do it surgeons should do better Dr Wathen has referred to the gynecologists They should confine their work to the pelvic cavity If seen early appendicitis should readily be diagnosed As to treatment, there is a great difference of opinion I can not interpret my friend Ochsner's statistics My cerebration may be a little defective. I do not operate on cases with advanced peritonitis of several days' duration that are practically moribund as I stated in my paper Before I came here I looked up my mortality since January 1 I do not like to speak about it here because I do not expect anybody to believe it any more than I should expect to believe others I have operated on 159 acute cases since January 1, on patients who had been ill for from three days to four or five weeks I have evacuated appendiceal pus by the gallon The statistics of these acute cases is 5 per cent plus I am convinced that there is no treatment under the heavens other than the judicious surgical technic that would give you as low a mortality as this in acute cases I do not expect to lose any in the interval operation but when we do it is usually from pneumonia and such exceptions will occur I go Dr Murphy one better He had sixteen cases with one death while I had sixteen with no deaths The class of cases of general peritonitis that I have had recover had only been ill a few hours. I operated on a case of that kind last Saturday The temperature was 104 the abdomen was distended there was muscular rigidity, and when I opened the abdomen I rolled out an inflamed appendix,

TABLE SHOWING CASE MORTALITY OF PNEUMONIA —Continued

Observer	Cases	Deaths	Per Cent	Reference
Davis	15	1	6.6	Cin Lan & Clin, July 15, 1899, p 9
Dawe & Austin	70	32	45.7	Lancet 1904 i, p 496
De Bordes	90	19	21.0	Neederl Weekb v Genes Jan, 1855
Demarrara Hosp	199	63	31.6	Crombie Op cit (1889 91)
De Renzi	32	3	9.4	Gaz d Osped, Feb 13 1898
De Renzi	14	2	14.3	Rev clin e Therap, 1896, xviii, p 503
De Renzi	15	1	6.6	Policlinico, Oct 31, 1896
Derpmann	655	117	17.9	Inaug Dissert, Bonn 1885 p 19
Dessau	45	0	0.0	Jour Am Med Assoc Nov 20 1899, p 791
Dick	2	0	0.0	Brit Med Jour 1904 i, p 105
Dietl	380	53	14.0	Der Aderlasse in d Lungenentz Wien, 1848 p 105
Dietl	750	69	9.1	Wiener med. Wochenschr, 1852
Dingle	1 126	405	36.0	Rpt. Med Officer Middlesborough, 1899
Doubleday	252	112	44.4	Med Rec Mar 28 1885 p 343
Drasche	73	16	21.9	Berichte 1894 99 (Vienna)
Drummond	8	2	25.0	Brit Med Jour, 1898 ii, p 939
Duke	8	0	0.0	Lancet, 1904 i, p 1016
Dukes	44	1	2.3	Lancet 1896 i p 840
Dupuy	70	23	33.2	Prog Méd, 1897, Nos 41-42
Dutcher	50	1	2.0	Cin Lan & Obsv, Jan, 1901 p 10
Edinburg Infirmary	80	4	5.0	Reports, 1839 and 1865
Edinburg Infirmary	1 716	306	17.8	Osler, Op cit
Eichberg	90	17	18.8	Jour Am Med Assoc, 1897, xxix, p 108
Eichberg	6	1	16.6	Am Med 1902 iii p 690
Eichhorst	1 018	197	19.1	Spec Path u Therap Wien, 1894 i, p 510
Elfstrom	9	2	22.5	N Y Med Jour 1898 lxviii p 556 and Sept. 30 1899 p 48
Elfstrom	11	3	21.4	Brooklyn Med Jour 1900 xiv, p 603
Elisabeth Hospital	1 253	314	25.1	Berichte, 1894 99 (Vienna)
Emmerich	161	46	28.6	Arch f Hygien, 1884, ii, No 1
Engelmann	15	4	26.7	Bost Med and Surg Jour 1897, cxxxvii p 311
Ewart and Percival	6	5	83.3	Brit Med Jour, 1900 ii p 900
Fanoni	32	3	9.4	N Y Med Jour 1898 lxvii, p 646
Fanoni	18	1	5.5	Pediat 1900 ix, p 393
Feldhausen	56	7	12.5	Inaug Dissert, Göttingen 1879, p 15
Fenwick	900	233	23.5	Lancet Jan 31 and Feb 7 1891
Ferguson	5	3	60.0	Jour Am Med Assoc, 1898 xxx, p 966
Ferguson	106	6	5.7	Smith XX Cent Prac xv p 97
Ficke	108	1	0.9	Wiener med Woch 1893 No 39
Fieandt	106	3	2.8	Duodecim Helsingfors 1889
Filk	61	1	1.6	Wiener med Woch 1893 Nos 8 and 9
Findelanstalt	152	117	77.0	Bericht Wien 1850
Fisher	4	4	100.0	Am Jour Med Sci 1901 cxxii, p 193
Fisher	26	1	4.0	Med Rec July 28 1889 p 94
Fismer	145	13	9.0	Arch f k Med, 1873 xi, p 391
Fleischmann	239	14	5.8	Sturges Op cit. p 329
Flint	133	35	26.3	N Y Med. Jour Mar, 1875 p 290
Flint	12	2	16.6	Prac Med 1868
Foa	1	0	0.0	Sem Méd, 1891 xi p 440
Folkmann	125	26	20.8	Inaug Dissert Erlangen 1847 p 39
Folsom	391	132	33.7	Med News 1897 lxx p 28
Forget	32	7	2.2	Gaz Méd de Strasb, 1860
Fox	55	8	14.5	Reynold's Syst Med Phila, 1880 ii p 204
Francis Joseph Hospital	1 118	289	25.8	Berichte 1894 99 (Vienna)
Fränkel	1 015	229	27.6	Lungenkrank h 1902
Fränkel & Reiche	1 130	219	19.4	Zeitschr f k Med 1894 xxv
Franque	872	262	30.0	Statistik d Pneumonie Würzb 1855
Fräntzel	100	0	0.0	Eichhorst, Op cit, p 511
Fraser	4 846	1 136	23.4	Glasgow Med Jour May 1902
Fricke	179	16	9.0	Inaug Dissert. Gött, 1886 p 26
Frohmüller	12	0	0.0	Deutsche Klinik 1855
Funck	941	102	10.8	Inaug Dissert Griefswald 1868
Fussell	132	22	16.4	Med News, 1898 lxxii p 297
Gallisart	13	10	77.0	Pneumonie, etc. Paris 1877
Gandini	25	0	0.0	Ranking's Abst. No 28 p 92
Gaston	63	15	23.8	Med News Aug 5 1893 p 152
Geissler	421	87	20.7	Arch d Heilk 1861 ii p 115
Gentile	40	1	2.5	Laennec Dist. Chest N Y 1830 p 270
Gerbracht	45	29	64.5	Inaug Dissert. Würzb 1885
Gerhard	41	1	2.5	Am Jour Med Sci xiv p 328
Gerhardt	6	0	0.0	Thüring Corresp bl 1875 No 11
German Army	42 467	1 524	3.6	Hermann Lungenentz 1880
German Army	19 169	735	3.8	Personal Com Surg Gen (1896 1901)
Goldsborough	9	2	22.2	Jour Am Med Assoc 1902 xxxviii p 1681
Goodhart	120	25	20.8	Osler Prac Med 1899 p 131
Graf	46	13	28.2	Inaug Dissert Würzb 1876
Graham	5	1	20.0	Lancet, 1903 i p 1031
Gray	6	1	16.7	Med Rec 1902 lxi p 527
Green	23	1	4.4	Med Rec July 20 1889 p 66
Grisolle	748	183	24.4	Traité de la Pneumonie Paris. 1864
Grund	16	0	0.0	Pneumonie Würzb 1891
Gründler	73	4	5.5	Deutsche med ærztl Zeit. 1875 iv 2 p 79
Gualdi	39	2	5.1	Lancet. 1884 ii p 27
Guigeot et Deguy	12	0	0.0	Sem Méd Mar 15 1897
Gurlt	30	15	50.0	Ann Surg, Feb 1896
Haedke	4	3	75.0	Deutsche med Woch 1898 p 220
Hall	70	24	34.3	Phila Med Jour 1901 viii p 791
Halla	14	2	14.3	Präger Zeitschr f Heilk, 1883 iv p 198
Hamilton	9	1	11.1	Brit Med Jour 1899 i p 1214
Handford	31	9	28.1	Lancet 1900 ii, p 170
Hartnett	1	0	0.0	Brit Med Jour 1897 i p 1279
Hartshorn	11 175	1,117	10.0	Med News Apr 7 1888
Hay	150	61	40.6	Lancet Nov 28 1903
Hayem	77	16	21.0	Wiener med Bl 1895 p 682
Hawkins	242	9	3.7	Practitioner July 1893 p 19
Hegele	40	0	0.0	Kissel Pneumonie, 1852 p 149
Helbing	62	5	8.0	Canstatt's Jahresb 1850
Hellis	831	173	22.0	Clin Med, Paris 1824
Hendley	933	93	9.9	Brit Med Jour 1895 i p 276
Henry	9	3	25.0	L Union Méd. 1847 No 127
Herard	40	8	20.0	Temp in Pneumonie. Paris, 1885
Hermann	712	45	6.5	Lungenentzündung Münch, 1880 pp 13 42
Hirst	7	3	42.8	Obstetrics 1898 p 617
Hjaltelin	80	3	3.7	Edinb Med & Surg Jour, Apr, 1864
Hœpfel	15	1	7.3	Therap Monatschr Apr 1892
Holdheim	5	0	0.0	Deutsche med Wochenschr 1896 xxii p 85
Holmes	1	1	100.0	Jour Am Med Assoc 1901 xxxvi p 1544
Holt	198	37	19.0	Med Rec Feb 14 1885 and Apr 7 1888
Holwede u Münich	15	1	6.6	Arch f Kinderh ii

TABLE SHOWING CASE MORTALITY OF PNEUMONIA—Continued

Observer	Cases.	Deaths	Per Cent	Reference
Homburger	25	9	36.0	Inaug Dissert, Strassb 1870, p 71
Home for Aged	202	123	60.9	Mauerbach (Wien), for 9 years
Hourmann et Dechambre	109	76	70.0	Arch Gén de Méd 1836
Howard	170	10	6.0	Osler Op cit p 131
Huber u Blumenthal	14	2	14.3	Berl klin Woch 1897
Hulava	12	0	0.0	Deutsche med Zeit 1855
Hughes	14	5	35.7	Trans Pan Am Med Cong, 1893 i p 324
Hughes and Carter	1	0	0.0	Therap Gaz, Oct 15 1892 xvi p 668
Huss	2 710	375	13.9	Lungenentzündung, Leipz 1861, p 94
Ingals	338	123	36.4	Jour Am Med Assoc, 1902, xxxix p 1301
Ingals	22	10	45.8	Med News Oct 17 1903 p 727
Italian Army	12 442	1 874	15.6	Grieco Private Com (1890 1899)
Ivanoff	22	0	0.0	Meditzyna, 1894 No 4, p 20
Jackson	51	8	15.0	N Y Med. Jour Mar 1875, p 290
Jackson	19	2	10.5	Therap Gaz Nov, 1894 p 725
James	28	5	17.9	Am Jour Med Sci, July 1877
Janson	10	1	10.0	Hygiea (Stockholm) 1892, p 368
Johns Hopkins Hospital	431	96	22.2	Private Com Supt. Hurd (1889 1903)
Jones	32	10	31.3	Med. Chir Rev, Jan 1861
Jones	218	67	30.7	Jour Am Med Assoc, Aug 7, 1886 p 144
Judrin	30	1	3.3	Thèse de Paris, 1824 p 17
Juergensen	567	73	12.7	Pneumonie Tüb 1884
Kelly	1	1	100.0	Jour Am Med Assoc 1900 xxxv, p 599
Kerchensteiner	160	46	28.7	Bayer ärztl Intelligenzb 1881, xxviii, p 215
Kissel	301	19	6.3	Pneumonie Eilenburg 1852 p 269 91
Klemperer	6	0	0.0	Berl klin Woch. 1891 xxviii, p 869
Klemperer	20	0	0.0	Wiener med. Woch, 1892 xlii, p 852
Kocher	60	5	8.3	Pneumonie Würzb 1866
Kohn	32	12	37.5	Berl. k Wochenschr 1896 xxxiii p 1124
Koplinski	10	1	10.0	Maryl Med Jour, 1890, xii, p 170
Krause	59	9	15.3	Pneumonie, Leipzig 1868
Kreider	6	2	33.3	Med. Rec Sept 7 1889 p 260
Krügerhausen	71	1	1.4	Prakt Fragmenten, Coblenz 1845
Kühn	58	8	13.8	Arch f k Med 1878 xxi p 304
Lacage	42	1	2.5	Ranking s Abst No 28 p 92
Laennec	94	18	19.1	Dis. Chest, N Y 1830
Laennec (A.)	40	6	15.0	Jour Soc. Med la Loire, 1825
Lakeside Hospital	16	3	18.7	Report 1904 (Chicago)
Lambert	9	1	11.1	Med. News, lxxvi, p 559
Lambert	12	3	25.0	Jour Am Med Assoc 1900, xxxiv p 909
Landerer	50	10	20.0	Wiener med Presse 1893 p 730
Landrieux et Legros	10	2	20.0	Rev Gén de Clin etc. 1901, xv p 785
Latta	257	52	20.2	Osler, Univ Med. Mag, Jan 1889
Latta	10	0	0.0	Gior d. r Acad di Med di Torino 1893 xli p 33
Laveran	235	46	19.5	Mal des Armées Paris 1875 p 28
Lebert	898	135	15.0	Klinik d. Brustkrankh i
Legnaini	3	0	0.0	Rev Clin, 1893 p 31
Lesczinsky	245	25	10.2	Ziemssen Pneumonie 1862 p 236
Leudet	40	3	7.5	Bull Gén de Thérap, 1863
Liebermeister	52	29	55.7	Ziemssen s Handb
Liegel	72	0	0.0	Wiener med Woch May 7 1898 p 885
Liszt	46	0	0.0	Pester med chir Presse 1896 xxxii p 75
Löbel	57	10	17.5	Bericht d. Rud Stift., Wien, 1867
Loewenthal	12	0	0.0	Centralb f Therap Nov 1891
Loomis	255	87	34.0	N Y Med Gaz Apr 30 1881, p 154
Louis	78	28	32.2	Rech sur la Effets de la Saignée, Paris 1835
Louis	75	18	24.0	Phthisis, Boston, 1840 p 440
MacArtney	120	2	1.7	Med Rec 1896 i, p 397
MacGregor	4 027	287	7.0	Med Notes on Crimean War
Maldaresco	101	18	18.0	Sem. Méd 1896, lxxiv, No 19
Manges	58	15	26.0	Med News lxxvi p 115
Margotta	1	1	100.0	Gior Med d e Esercito Roma. 1899 p 796
Marie	8	0	0.0	Bull Soc Méd d Hôp d Paris May 17 1900
Marion	76	40	52.6	Am Pract & News 1895 xix p 415
Markham	392	56	14.3	Gulstonian Lectures Lond 1866
Marone	1	0	0.0	Rif. Med., 1898 i, p 582
Mason	50	23	46.0	Conn Bd. Health Rpt. 1885 p 338
Mass Gen Hosp	2 486	657	26.4	Townsend and Coolidge Am Climat Assoc 1889 and Person Com Supt. 1824-1903
Massalongo	10	3	30.0	Rif. Med 1898 ix p 246
Matton	38	10	26.3	Jour de Med de Brux. 1872 p 412
Mays	299	10	3.3	Bost. Med. & Surg Jour, Oct 24 1895 p 429 Med News 1897, lxx, p 124
McCrea et al	486	104	21.2	Mont. Med. Jour, 1904 xxxiii p 19
McManus	62	2	3.3	Med. Rec Sept. 8, 1888 p 260
Medical News	5	5	100.0	1899 lxxiv p 88
Mercer	538	28	5.2	Med Rec, Feb 29 1896
Mercier	70	29	40.1	Bull. Soc Anat xii, p 279
Mercy Hospital	492	166	33.7	Person. Com
Meyer	12	2	16.6	Folsom Op cit. p 29
Meyer	500	94	18.9	Mt. Sinai Hosp cases
Miller	14 857	14 411	97.0	Am Jour Med. Sci. June, 1894
Mitchell	6 149	1 481	24.1	Edinb Med. & Surg Jour Nov 1857 p 404
Monetti	29	1	3.5	Gaz d Osped, Mar 29 1903
Montreal General Hospital	1 012	207	20.4	Osler Univ Med Mag Nov 1888
Montgomery	20	6	30.0	Ill Med. Jour Feb 1904 v p 672
Morano	15	2	13.3	Rif Med., 1899 Nos 72 73
Morehead	164	43	26.7	Rankin s Abst. No 28 p 92
Morrill	195	7	3.6	Bost. Med. & Surg Jour 1894 cxxx p 541 Arch Pediat 1897 xiv p 780
Morris	35	11	31.4	Lancet, 1891 i p 519
Mosler	40	0	0.0	Lungenentzündung Griefswald 1887
Mueller	10	0	0.0	Ranking's Abst No 28 p 92
Muir	4	1	25.0	Med Rec. 1901 lx, p 433
Münch Krankenh	234	43	17.9	Ann 1874-75-78
Musser	135	56	28.7	Nothnagel s Encycl Dis Lungs 1902 p 505
Nelaser	3	0	0.0	Deutsche med. Woch 1892 xviii p 593
Neuhoff	12	2	16.6	Med. Rec. 1901, lix, p 724
Neumann	7	2	28.6	Berl k. Woch. 1888, p 119
New York Hospital	1 188	348	31.0	Reports, 16 years
Oppolzer	32	5	15.6	Rankin s Abst. No 28 p 92.
Orr	18	1	5.5	Med Rec Sept. 27 1902, p 515
Osler	149	42	28.2	Am. Jour Med Sci 1897 cxiii p 1—Nat Med Rev vii p 177
Pane	66	6	9.1	Rif. Med 1897 pt. ii p 40—1898 No 17
Paton	98	2	2.2	Am Jour Med. Sci Oct. 1870 p 375
Patton	63	36	57.1	Jour Am. Med. Assoc Oct. 16 1880.
Pauso	169	26	15.3	Lundgenentzündung. Leipz. 1861 p 154
Peacock	100	12	12.0	St. Thomas Hosp Rpts. v p 18.

TABLE SHOWING CASE MORTALITY OF PNEUMONIA —Continued

Observer	Cases	Deaths	Per Cent	Reference
Peaslee	[illegible]	[illegible]	10 0	Chic Med Stand Oct 1889 p 126
Pelletan	75	11	14 6	Mém de l'Acad de Méd, viii, p 373
Pendlebury Hospital	231	3	1 3	Reports Manchester 1881 86
Pennsylvania Hospital	920	211	20 2	Osler, Op cit, and Eichberg, Am Med iii p 691
Pepper	1,185	173	11 6	Bost Med & Surg Jour, Apr 24 1890
Pepper	2,471	321	13 1	Med News, July 5, 1890
Petrescu	825	17	2 0	Bull d Thérap, cxxii p 120
Piorry	30	2	6 6	Ranking's Abst No 28 p 92
Pollenctov	37	3	8 1	La Méd Mod 1892, xiii p 150
Popham	30	2	6 6	Brit Med Jour, Dec 28, 1867
Porteous	50	0	0 0	N Y Med Jour, May 11, 1895, p 594
Powell	6	1	16 6	Brit Med. Jour 1895, ii, p 1149
Prantois	59	13	21 7	Arch Gén de Méd, 1892 pp 274 452
Pribam u Robertscheck	10	0	0 0	Prager Vierteljahrschr 1869
Prince Edward's Island	546	40	7 3	Med Rec July 13, 1889, p 41
Provident Hospital, Chic	52	12	23 1	Reports, 3 years
Prus	129	77	59 0	Mém de l'Acad de Méd, 1840 viii, p 13
Putnam Jacobi	11	2	14 3	N Y Med Jour, June-July 1879
Pye Smith	434	111	25 5	Allbutt's Syst. Med, 1898 vi, p 136
Rall	35	7	20 0	Inaug Dissert Stüttg, 1887, p 5
Rankin	5	1	20 0	Lancet, 1895, ii p 456
Rasori	832	173	22 0	Arch Gén de Méd 1824
Raw	1 047	245	23 4	Lancet 1900, i, p 460
Raw	817	196	24 0	Brit Med Jour 1891 ii, p 1803
Raymond	1	0	0 0	Arch Gén de Méd Mar, 1901, p 99
Recupito	1	0	0 0	Riv Clin Terap, Napoli 1899 ii, p 79
Recco	35	20	57 3	Brit. Med Jour 1895 ii p 1314
Reed	64	2	3 1	Therap Gaz, Apr 15, 1892
Renier	24	1	4 1	Wiener med Woch, 1893, No 39
Reuf	94	5	5 3	Ranking's Abst., No 28, p 92
Reyburn	202	14	6 9	Am Jour Med Sci Apr 1866 p 368
Ricau	43	12	28 0	Thèse de Paris, 1874
Rietz	392	50	12 8	Inaug Dissert Jena, 1868 p 19
Rilliet et Barthez	81	77	95 0	Mal d Enf Paris 1838
Ringrose	20	3	15 0	Lancet 1897, ii p 1451
Robinson	32	0	0 0	Lancet (Am Ed.) 1852, ii p 288
Robinson	141	101	71 6	Med Rec 1898, liii p 253
Rochester	168	21	12 5	Jour Am Med Assoc, 1901, xxxvii p 1237
Rodini	2	0	0 0	Cong Int. Med. Roma, 1899 p 378
Rodman	98	25	25 5	Am Jour Med Sci, Jan 1870
Rosenow	30	12	40 0	Jour Infec Dis 1904 i p 280
Roosevelt Hospital	367	142	38 7	Eichberg Am Med, iii, p 691
Roth	237	45	18 9	Statistik d Pneumonie Würzb, 1860
Routh	103	9	4 5	Lancet (N Y Ed), 1855, ii p 36
Rudolph Stiftung	3 026	775	25 6	Berichte 1865 75, and 1894 99
Salawa	15	0	0 0	Schmidt's Jahrb, 1855, lxxxvi p 30
Salem Hospital	2	1	50 0	Repts, 1877 p 8
Sampson	909	209	23 0	Lancet (N Y Ed.) 1851, ii p 36
Samter	331	39	11 0	Inaug Dissert., Breslau 1881
Schapira	264	42	16 0	Inaug Dissert., Würzb 1877
Scheef	547	72	13 1	Inaug Dissert, Tüb 1882 p 15
Schlesinger	335	54	16 1	Inaug Dissert., Berlin 1873 p 23 24
Schlesinger	173	7	4 0	Arch f Kinderh, 1897 xii p 266
Schmidt	152	20	13 0	Ranking's Abst, No 28 p 92
Schmidt	17	2	11 8	Berl k Woch, 1883, No 23
Schmidtmann	68	2	8 0	Hufeland's Jour iii p 441
Schrœder	1 277	183	14 3	Inaug Dissert. Kiel, 1882
Schultz	94	8	7 9	Am Pract, Sept, 1879
Schultz	238	16	6 5	Jour Am Med Assoc July 30, 1886, p 119
Scott & Montgomery	67	10	14 9	Therap Gaz Dec, 1903
Scotter	29	18	62 1	Lancet 1890 ii, p 1170
Sears	13	5	38 5	Bost Med and Surg Jour 1901, cxlv p 639
Sears and Larrabe	940	341	85 9	St. Paul Med Jour, July, 1902
Sebring	100	1	1 0	Med Rec, Apr 22 1899, p 558
Semaine Méd	104	7	6 9	1892 xii p 21
Sereni	23	11	48 0	Policlinico, 1897, No 22
Sigmund	743	104	14 0	Ranking's Abst. No 28, p 92
Silva	5	2	40 0	Cong Med Intern *Roma* 1899 p 218
Sittmann	16	6	37 5	Arch f k Med, liii p 323
Skoda	555	74	13 3	Allgem *Wiener m Zeit* 1863
Smith	108	3	2 8	Schmidt's Jahrb cxxxii p 321
Smith	5	0	0 0	Brit. Med Jour 1895 i p 1029
Smith	458	154	33 2	XX Cent Practice, xv 1900 p 79
Smith	223	66	29 6	Med Rec., 1896 xlix p 649
Smith	60	17	28 6	Med News, 1898 lxxiii, p 817
Snively	113	13	11 5	Jour Am Med Assoc 1901 xxxvi, p 1062
Speck	50	12	24 4	Inaug Dissert, Marb 1870 p 2
Spence	228	48	21 0	Med Rec July 1 1893, p 1
Spalverini	9	0	0 0	Bull Acad Med Roma 1900 xxvi p 79
Spurrell	6	6	100 0	Brit Med Jour Dec 25 1897, p 1848
Stecher	656	128	19 5	Inaug Dissert, Leipz 1866 p 14
Steffan	94	18	18 8	Klinik d Kinark Berl 1865
Steinmetz	83	24	29 0	Ohio Med Rec June 1877 p 34
Stephan	25	9	36 0	Needrl, Weekbl, 1888
Stephanie Hospital	36	3	8 3	*Berichte, 1894 99 (Vienna)*
Stephens	54	4	7 4	Therap Gaz 1901 xxv, p 731
Stephenson	34	19	56 0	Lancet, 1896 i p 1630
Stevens	78	5	6 5	Am Jour Med Sci, Oct 1870 p 376
Stierlin	150	7	4 6	Berl k Woch 1870 No 26
Stoahml	80	0	0 0	Ranking's Abst. No 28 p 92
Stockholm Mil Hospital	670	49	7 3	Huss Op cit p 86
Stortz	1,432	258	18 5	Inaug Dissert Würzb 1884
Strizover	9	0	0 0	Brit. Med Jour, Dec 24 1891
Strong	20	1	5 0	Med Rec Mar 16 1889 p 201
Sturges	452	35	7 7	Pneumonia, Lond 1876
St Ann's Child Hospital	28	8	28 5	Wien, 1850
St. Joseph's Hospital	17	4	22 0	Personal Com (1895 6) (Chicago)
St Luke's Hospital	306	106	34 6	Personal Com (1892 1903) (Chicago)
St Mary's Hospital	4	1	25 0	Report, 1870 (Quincy)
St Michael's Hospital	29	4	13 0	Report, 1876 (Newark)
St Rochu's Hospital	260	60	23 1	Berichte 1894 99 (Vienna)
St Thomas' Hospital	708	143	20 2	Rpts., 1891, xix p 247 (London)
Sweeney	1	0	0 0	Trans Luzerne Co Med Soc ix, p 147
Talamon	7	6	85 7	Med Week, Mar 20 1895
Talamon	50	7	14 0	Méd. Mod, Feb 27 and Mar 6 1901 pp 65 73
Tate	46	12	26 1	Clin Lan and Clin 1895 xxxiv, p 539
Taylor	25	1	4 0	Med News 1902 lxxxi p 880
Thiele	6	0	0 0	Deutsche Klinik 1855

TABLE SHOWING CASE MORTALITY OF PNEUMONIA —Continued

Observer	Cases	Deaths	Per Cent	Reference
Thielmann	110	12	11 0	Ranking s Abst, 1858 xxviii p 99
Thomas	106	3	2 8	Am Jour Med Sci Oct 1870, p 376
Thomas	51	11	21 5	Arch d. Heilk, iv No 2
Thomas	68	1	1 4	Richm & Louisv Med Jour 1876
Thornton	3	2	66 6	Brit Med Jour 1891 ii p 125
Tommasini	115	14	12 1	Peripneumonie Bologne, 1817
Tommasini	7	0	0 0	Sieroterapia, 1900 iv p 49
Townsend	42	2	5 0	Jour Am Med Assoc, Dec 1, 1888 p 789
Tregagno epidemic	100	30	30 0	Deutsche m Zeit., 1883 No 41
Trinidad Hospital	11	5	45 4	Crombie Op cit (1890 91)
Trousseau	52	2	4 0	Ranking s Abst., 1858 xxviii p 99
Tyler	6	1	16.7	Jour Am. Med Assoc., xxxvi, p 1540
U S Army	2 073	224	10 8	Hartshorn, Op cit (1840 59)
U S Army	77 335	20 116	26 1	Med. Hist Rebellion, i pt 1 (1860 65)
U S Army	6 835	1 075	15 7	Person Com Surg Gen (1868 1902)
U S M Hosp Service	6 185	1 108	17 9	Reports Surg Gen 29 years
U S Navy	398	37	9 3	Repts. Surg Gen (1879 80-81 82-86-88-1901)
U S Navy	797	108	13 5	Person. Com Surg Gen (1890 1900)
Valleix et Vernois	128	127	99 2	Buchut Dis Child p 325
Vandeboncour	17	0	0 0	Syracuse Acad Surg, Oct 22, 1901
Van Zandt	1 154	56	4 9	Med Rec. Oct. 18 1902, lxii p 601
Verrentrap	23	1	4 3	Henle u Pfeiffer s Zeitschr 1851
Victoria Ry Hospital	316	53	16 7	Person. Com Registrar (Montreal 1894 1901)
Vienna General Hospital	25 427	6 212	24 4	Berichte (1840 1891 and 1893 1899)
Voght	56	4	7 0	Bull gén de Thérap, Jan, 1860
Wagner	13	7	53 8	Contrastimulus, u s w, Berl 1819
Waller	81	9	11 1	Inaug Dissert. Erlangen, 1877, p 25
Waller	119	33	27 7	Günsburg Klinik d Brustk p 532
Walls	4	2	50 0	Jour Am Med Assoc, 1901, xxxvii p 560
Warbrick	7	6	85 7	Person. Com
Warfwing	546	34	6 2	Eichhorst Op cit. p 511
Wassider	112	4	3 5	Ranking s Abst. 1858 xxviii p 99
Waters	44	1	2 4	Dis Lungs p 87
Waters	59	2	3 4	Liverpool & Manchester Hosp Rpts, iv
Waters	151	11	7 3	Lancet, 1900 i, p 469
Weber	9	1	11 2	Med Rec 1901 lx p 681
Weber	200	18	9 0	Phila Med Jour 1900, vi, p 596
Wiesbecker	21	2	9 9	Münch m Woch 1898, pp 202 238
Wiesmayer	39	8	20 5	Zeitschr f k Med 1897 xxxii, p 291
Wesley Hospital	89	20	22 4	Repts 1901 03 (Chicago)
West	1 633	353	21 6	Dis. Organs of Resp, Lond, 1902 i p 303
Whitelegge	682	148	20 9	Allbutt's Syst. Med 1896 i, p 656
Wieden Krankenh	890	252	28 3	Berichte Wien, 1876 u, 1894-99
Wilbrandt	126	12	9 5	Inaug Dissert Rostock, 1862
Wilcox	38	0	0 0	Med News 1901, lxxix p 638.
Wilheminie Hospital	517	110	21 3	Berichte 1894-99 (Vienna)
Wilson	18	4	22 2	Jour Am Med Assoc 1900 xxxv p 895
Wilson	38	8	21 1	Med News 1900 lxxix p 638
Wilson	23	0	0 0	Phila. Med. Jour 1900 v p 510
Wilson	40	11	28 0	Med News, 1901 lxxvi p 913
Wilson and Page	18	6	33 3	Therap Mon, July 1901
Wilson and Rosenthal	1	1	100 0	Therap Mon July 1901
Witte	505	25	5 0	Inaug Dissert Berl 1877, p 41
Wittich	23	0	0 0	Ranking s Abst 1858 xxviii, p 99
Woman s Hospital	4	0	0 0	Report, Phila., 1876 p 12
Woodson	20	2	10 0	Am Pract. Mar 1870 p 289
Wucherer	90	1	1 1	Ranking's Abst No 28 p 99
Wunderlich	237	25	10 6	Arch f. Heilk 1856 iii
Wunderlich	50	8	16 0	Inaug Dissert, Tüb, 1858 p 31
Ze'geli	40	0	0 0	Satterthwaite Med News Jan 5 1889
Author	1 000	243	24 3	Jour Am Med. Assoc Jan 9 1892 and unpublished
Totals and average	465 400	94 826	20 4	

from his list as many of the fatal cases as can be possibly eliminated in order that his percentage of cures may be raised[1]

Not only is the mortality of pneumonia appalling, but it is steadily increasing This fact is conclusively proven by the following curves constructed from the statistics of the Massachusetts General Hospital, the Boston City Hospital, the Cincinnati Hospital, the Glasgow Royal Infirmary and the Wiener Allgemeines Krankenhaus The statistics of the United States Army are given as an example of the very uniform death rate which may be shown during a long term of years by some series of cases It is fair to state, however, that the mortality rate of 15 7 per cent shown by this series, 1868-1902, is nearly one-half greater than the 10 8 per cent shown by the cases occurring in this army in the years 1840-1859

The causes of death are the direct effects of pneumococcal activity This fact I desire to emphasize In the vast majority of cases death is due to a profound toxemia, in which case the gross anatomic lesions may be quite insignificant, or they may be of the most extensive and destructive character, or they may be of any intermediate grade, but whatever the extent and character of the demonstrable lesions, the fatal result must be laid to the door of the, as yet, intangible systemic pneumococcus intoxication

Certain noticeable effects follow and are directly due to the introduction into the system of the pneumotoxin it may be in infinitesimal quantity and diluted beyond computation, as, e g the profound chill, the raging fever, the lowered arterial tension, the disturbed balance between constructive and destructive metamorphosis, the interference with the excretion of waste, etc Other pathologic changes may be due to the effects of the pneumotoxin, plus the combined toxic leucomains of tissue waste, etc The measure of these, especially of the first class, will depend on the virulency and special characteristics of the infecting germ, and the intangible and immeasurable general and special resistance offered by the patient This will necessarily vary infinitely in different persons and in the same person at different times, and this brings to the fore those large questions of inherent and acquired relative immunity and susceptibility which can only be mentioned at this time Neither can any attempt be made to analyze the influence of the immediate and more or less remote effects of pneumococcal activity, namely, extent of the hepatization, pleurisy, pericarditis, cardiac thrombosis, meningitis, etc, and of such accidental complications as nephritis, cardiac valvular disease, arterial degenerations, anemias, diabetes, obesity, etc, direct and marked as they must be

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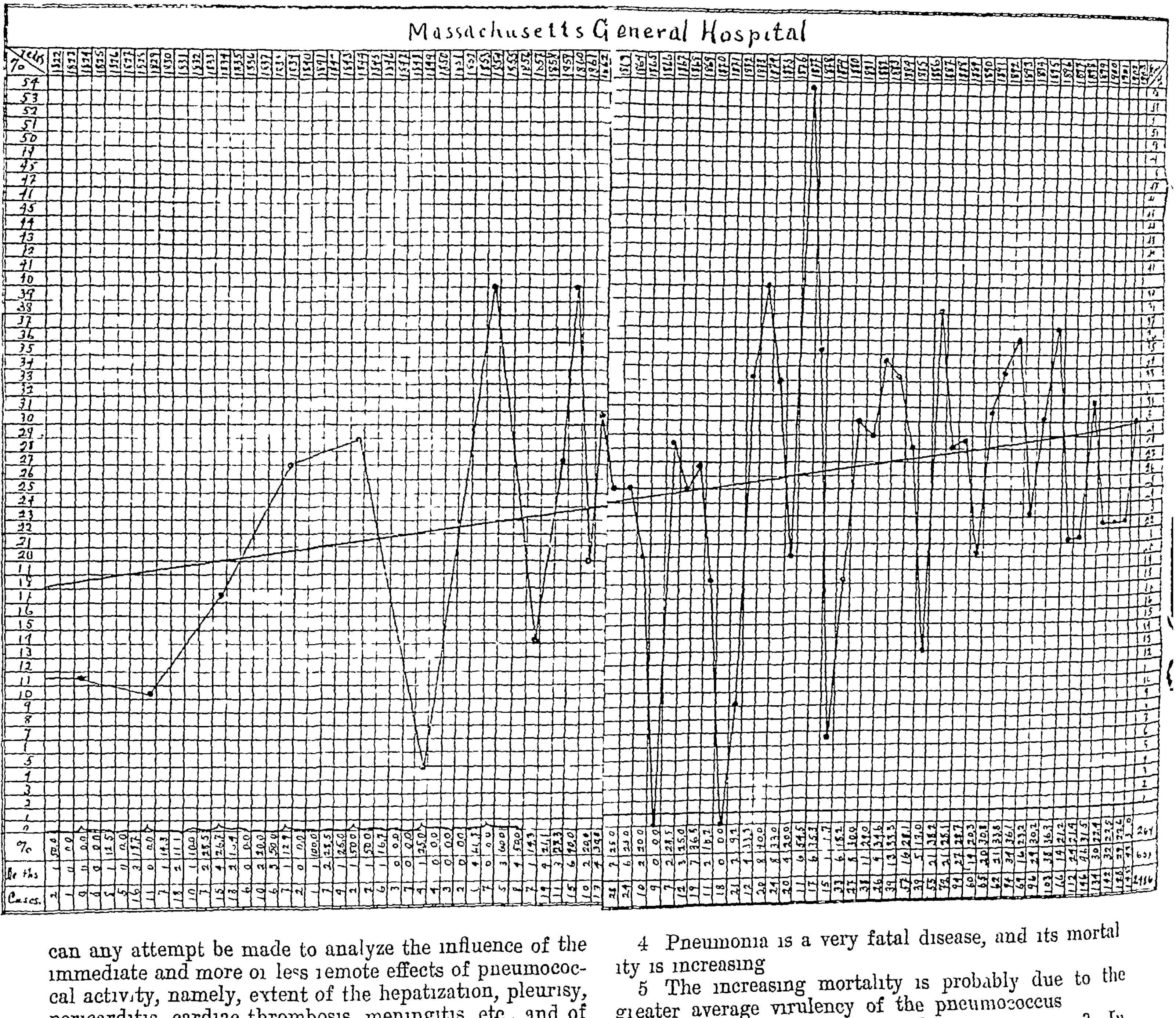
[1] Formerly many writers considered pneumonia a disease of comparatively slight danger Thus Bennett says that the mortality of uncomplicated cases, properly treated should be practically *nil* and this opinion was shared by Barthez Joly D Espine, Waters Wood Hartshorn and others. Trousseau says that generally speaking there is a tendency to spontaneous recovery Flint says that in uncomplicated cases 'the intrinsic tendency is to recovery indeed recovery is not only the rule but the exceptions are exceedingly infrequent. Gerhard affirms that the death rate in private practice should not exceed 2 or 3 per cent. To be sure these opinions were not shared by all the writers of the day as for example Loomis says that a disease in which death occurs in one out of five cases should be classed among the very fatal diseases, and similar views are held by Copland Watson Drake Sturges and others. As a rule the latest editions of the textbooks on practice which are in the hands of the great majority of American medical students estimate very fairly the dangerous character of the disease. Thus Osler says that pneumonia is the most fatal of all acute diseases. Tyson says that it is the most fatal of all infections of adults in temperate climates. Anders says that the death rate in hospitals is about 25 per cent. in private practice about 15 per cent. Thompson places the mortality at 30 per cent for hospital and 8 to 15 per cent. for private practice. Philip Mackenzie West Pye-Smith Fitz Aufrecht and Eichhorst all are aware of the real hazard of the pneumonic attack Strümpell stands alone in his opinion that pneumonia belongs to the benignant infectious diseases '

Time will not permit a consideration of the bearing exercised on the prevalence and mortality of pneumonia by the changing environments of the population as a whole or in its parts—the varying age relations, the prevalence of drunkenness, the therapeutic modifications which have ensued, as well as other important factors, although there can be no question as to their weight as modifying influences I will, therefore, content myself by reiterating the following conclusions

1 Pneumonia is a very prevalent disease, and its prevalence is increasing

2 This increasing prevalence is probably due to the wider diffusion of the more vigorous strains of the pneumococcus, made possible by the increasing commingling of people

3 The pneumococcus is to be found in the upper respiratory passages of a very large proportion of healthy persons, and it is the migration of these ever-present germs into the pulmonary alveoli which causes pneumonia



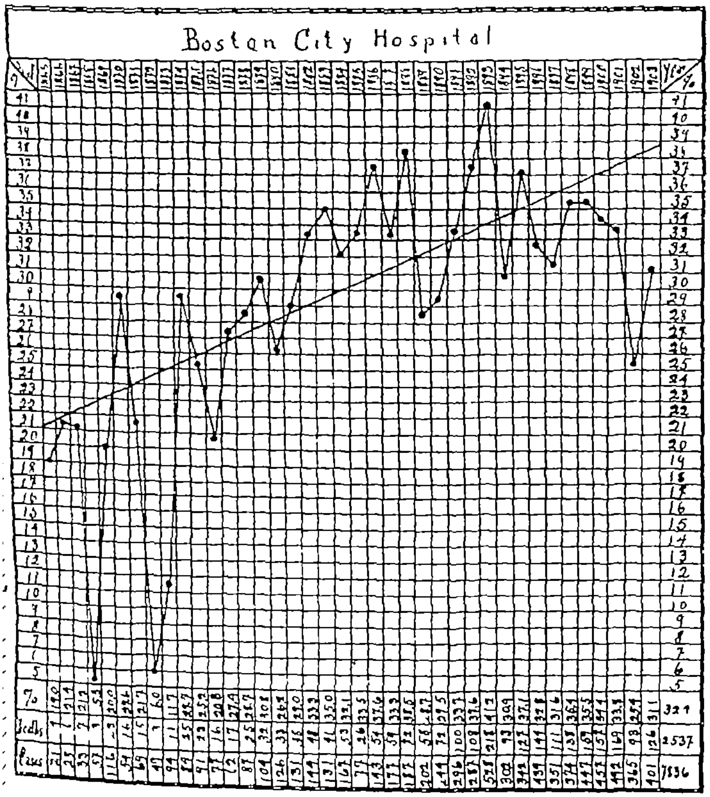
4 Pneumonia is a very fatal disease, and its mortality is increasing

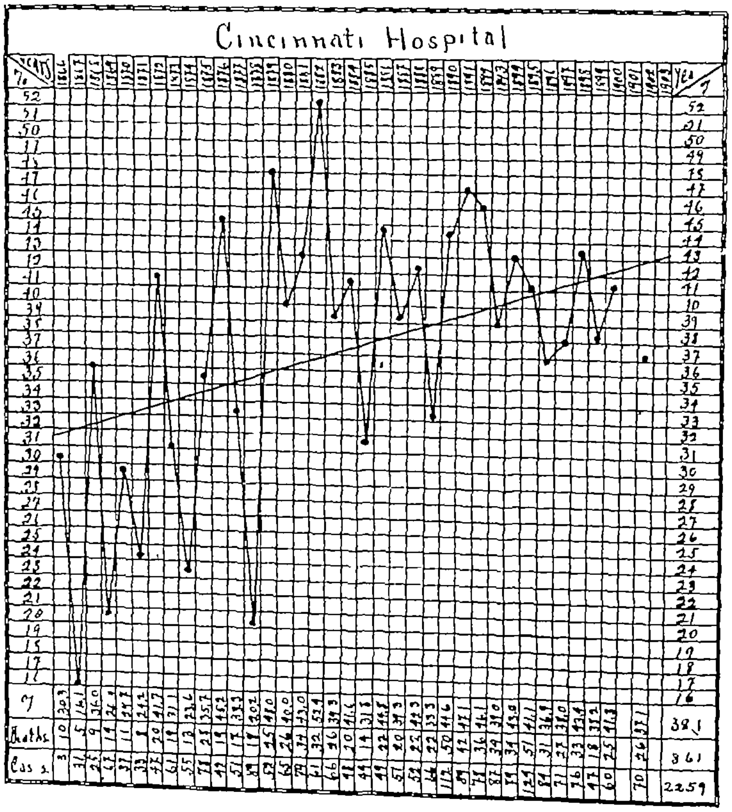
5 The increasing mortality is probably due to the greater average virulency of the pneumococcus

What can we do to prevent and cure pneumonia? In my opinion, we now have the foundation laid, as outlined above, for a reasonable and practicable prophylaxis We are prepared to formulate broad rules, with insistence on some of the details, but the latter will require careful and prolonged study before they can be reduced to that clearness and simplicity which will appeal to every mind and compel acquiescence and compliance I believe, however, that the time is now ripe for a great forward movement along these lines I have certainly failed to feel aright the professional and public pulse if we have not at our hand a populace ready and willing to be instructed in this matter, and to heartily co-operate with us in every reasonable prophylactic measure which we may recommend This is indeed fortunate, for without such assistance all our efforts will go for naught

The following prophylactic measures, the reasons for each of which are obvious, are offered for consideration

1 Pneumonic sputum should be destroyed before it has become dry The sputum which clings to the teeth and lips, and that which may adhere to the fingers and bedding, should be wiped up with moistened cotton, gauze or other cloth and these burned All sputum, although not pneumonic, might well be destroyed In coughing, in the case of the healthy as well as the pneumonic, a cloth, preferably moist, should be held before the mouth in such manner as to prevent the projection into the surrounding air of the fine, insensible, but probably pneumococci bearing spray which follows ordinary coughing The same applies to sneezing and blowing the nose





2 The nostrils, mouth and throat should be kept as clean as possible Cleansing sprays and washes for the nostrils, washes for the mouth and brushing the teeth, gargles and drinks for the throat Permanent occlusions of the nostrils should be removed, while transient ones may well be cared for by the more or less frequent use of a spray of adrenalin solution Honeycombed tonsils and adenoid growths should be removed Taking a drink of water after eating is a habit which should be formed and cultivated Every means should be taken to prevent sleeping with the mouth open

3 The room occupied by a pneumonic patient should be afterward disinfected, as is done after diphtheria and some other infectious diseases Remaining long or unnecessarily in a room occupied by a pneumonic patient should be avoided

4 Respiratory catarrhs, from whatever infection, should be avoided, and if contracted should be relieved as quickly as possible

5 Physical and mental exhaustion, privation, undue exposure to cold and inclement weather, all should be avoided as far as practicable

In the treatment of pneumonia we are, as yet, lacking in a direct antipneumonic remedy—a specific—yet in the management of the pneumonic attack, which must be conservative and symptomatic, certain definite objects should be kept in view

Preliminarily, it may be mentioned that the patient's environment should be the best which is available The nursing should be assiduous and of the highest grade The medical attention should be intelligent, careful, observant and unremitting

At the very beginning of the pneumonic attack the patient should be placed in bed, surrounded by bottles of hot water and given a hypodermic injection of a single small dose of morphia, e g, 1/16 to 1/8 grain He should be allowed to lie quietly until the subsidence of the chill, when the bottles of hot water should be removed If perspiration should be profuse the surface of the body should be dried The bowels should now be opened by an enema of 2 oz Epsom salts, 2 oz glycerin and 12 oz water Later an efficient cathartic should be given

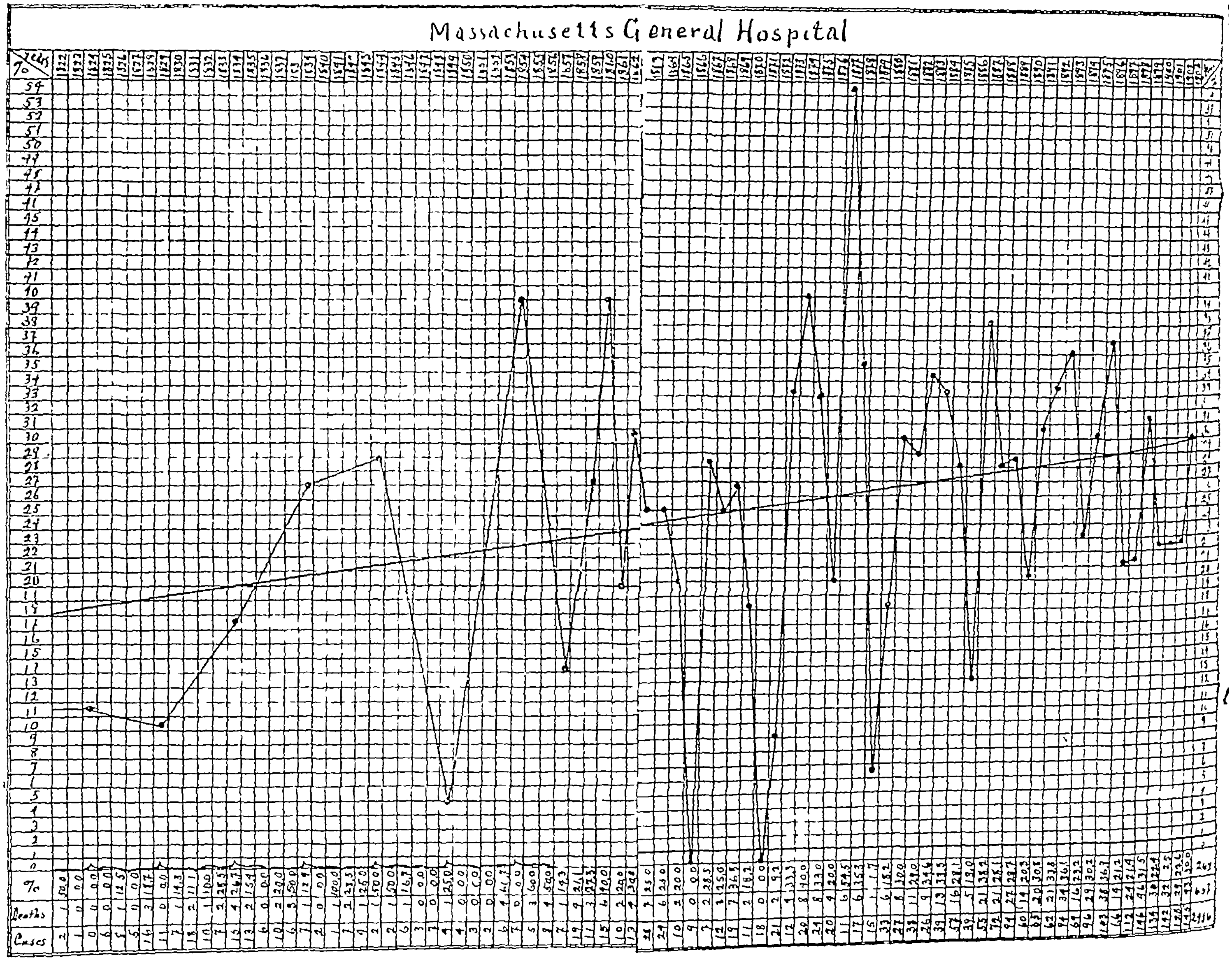
Moot questions arise with surprising promptness The first of these will be that of the management of the reduced arterial tension, which is one of the earliest and most persistent of the symptoms of pneumonia This is probably an efficient provision of nature for setting free and mobilizing an army of defending leucocytes, and protecting the tissues of the body from the irritating and paralyzing effects of the pneumococcal toxins Nevertheless, certain other and most undesirable effects follow, as, e g, the arterial system is underfilled, while the venous system is overfilled with blood, osmosis through the capillary walls is largely suspended the tissues are not nourished and waste material is not removed, the heart, contracting against a greatly reduced resistance, becomes tired or exhausted What shall we do under between constructive and destructive metamorphosis, the interference with the excretion of waste, etc. Other pathologic changes may be due to the effects of the pneumotoxin, plus the *combined toxic leucomains* of tissue waste, etc. The measure of these, especially of the first class, will depend on the virulency and special characteristics of the infecting germ, and the intangible and immeasurable general and special resistance offered by the patient. This will necessarily vary infinitely in different persons and in the same person at different times, and this brings to the fore those large questions of inherent and acquired relative immunity and susceptibility which can only be mentioned at this time. Neither can any attempt be made to analyze the influence of the immediate and more or less remote effects of pneumococcal activity, namely, extent of the hepatization, pleurisy, pericarditis, cardiac thrombosis, meningitis, etc., and of such accidental complications as nephritis, cardiac valvular disease, arterial degenerations, anemias, diabetes, obesity, etc., direct and marked as they must be.

Time will not permit a consideration of the bearing exercised on the prevalence and mortality of pneumonia by the changing environments of the population as a whole or in its parts—the varying age relations, the prevalence of drunkenness, the therapeutic modifications which have ensued, as well as other important factors, although there can be no question as to their weight as modifying influences. I will, therefore, content myself by reiterating the following conclusions:

1. Pneumonia is a very prevalent disease, and its prevalence is increasing.

2. This increasing prevalence is probably due to the wider diffusion of the more vigorous strains of the pneumococcus, made possible by the increasing commingling of people.

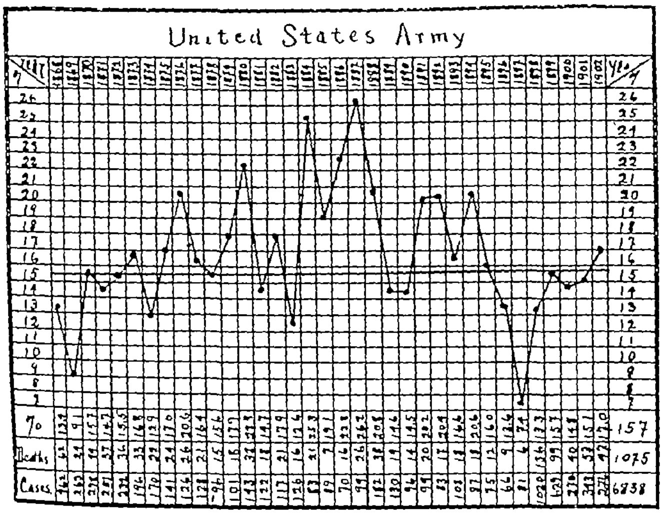
3. The pneumococcus is to be found in the upper respiratory passages of a very large proportion of healthy persons, and it is the migration of these ever-present *germs into the pulmonary alveoli* which causes pneumonia.



4. *Pneumonia is a very fatal disease, and its mortality is increasing.*

5. The *increasing mortality* is *probably due to the greater average virulency of the pneumococcus.*

What can we do to prevent and cure pneumonia? In my opinion, we now have the foundation laid, as outlined above, for a reasonable and *practicable prophylaxis*. We are prepared to formulate broad rules, with insistence on some of the details, but the latter will require careful and prolonged study before they can be *reduced* to that clearness and simplicity which will appeal to every mind and compel acquiescence and compliance. I believe, however, that the time is now ripe for a great forward movement along these lines. I have certainly pear, or, having appeared, subsequently declines The one agent, however, to which we can appeal with a certainty that the heavy burden of profound toxemia will be lightened, is venesection If, under these circumstances, from 8 to 24 ounces of blood is withdrawn, the amount of pneumotoxin in the blood vessels is, initially, reduced from 1/30 to 1/10 If at the same time there is introduced into the system, rapidly, a quantity of water equivalent to the amount of blood withdrawn, the remaining toxins are very appreciably diluted This may be done by the employment of large enemas or by hypodermoclysis of normal salt solution Profound toxemia often manifests itself by high temperature, gradually increasing frequency of the pulse, with lowering tension, restlessness and delirium, or a peculiar clearness of intellect, sallowness or duskiness of the surface, etc, and in these cases I can strongly recommend the free abstraction of blood, with normal salt solution hypodermoclysis Do not, however, await the fullest development of such symptoms, but institute these measures on the very first indications of their appearance In this connection I wish to call particular attention to the advisability of giving fluids very freely throughout the pneumonic attack, for the purpose of continuously washing the blood and thereby ridding the system of as much toxin as possible



The rôle of the chlorids in pneumonia is not well understood However, one of the most remarkable of the pneumonic phenomena is the great diminution or disappearance of the chlorids from the urine in some cases This occurs less frequently and less profoundly than is popularly supposed, yet it is a condition to be considered It is reasonable to infer that the chlorids are required in the blood, in the extra-vascular fluids of the body and in the alveolar exudate for purposes of defense against the pneumococcus or its toxins This is a sufficient reason, in my own opinion and in my practice, for the systematic use of sodium chlorid as a therapeutic agent, and I direct that all foods be well salted, and that saline enemata be given as freely and as frequently as they can be retained

The antipneumococcic sera thus far placed on the market have failed to meet that favor at the hands of clinicians which is quickly and enthusiastically awarded every therapeutic novelty of real value Personally, I have witnessed phenomena following the hypodermic injection of such sera which leads me to believe that they may be made agents of real and beneficent power Analogy leads us to believe that a useful antipneumococcic serum may be produced, and I am hopeful that this will be early accomplished

Fermentative and putrefactive changes in the intestines are not rare and should be accorded special consideration This will usually be prevented by the early catharsis which was recommended, however, throughout the entire attack the functional activity of the gastrointestinal tract should be often and carefully investigated An excess of sulphates or of indican in the urine, the presence of a paretic state of the intestines, with tympanitic distension and an inability to pass flatus, the sudden onset of fetid diarrhea, all should be recognized at once and proper relieving measures applied, as, for example, regulation of the diet, the judicious use of cathartics, the employment of stimulating enemata and the administration of some efficient intestinal antiseptic

Pulmonary edema is an occasional event which, despite its serious nature, may occur early enough to permit of relief Energetic stimulation of the nervous system by strychnia, of the capillaries by adrenalin, and of the heart by a small dose of morphia, are the proper remedies The appearance of profuse, possibly cool, perspiration is an ominous, but not hopeless, symptom Here a prompt appeal to rational therapeutics may be of incalculable value to the patient The condition is probably akin to that of pulmonary edema and requires similar management

Oxygen inhalations meet my approval I begin their use comparatively early and employ them somewhat more freely than is usual Oxygen, used in this manner, I believe to be useful and not at all harmful

It is not my intention to consider the numerous minor, although often eminently useful, measures which are required to meet the various indications for treatment which may arise during the pneumonic attack These defy enumeration and must be applied to meet special case requirements

Whether impending death, in pneumonia, can ever be averted is an interesting and important question. That conditions of great peril may be relieved in some cases I am firmly convinced Among these may be mentioned profound toxemia, circulatory failure, pulmonary edema, intestinal paresis, failure of the nervous reflexes, etc When, however, death has actually begun (the earliest indication of which is an increasing dyspnea, with a rising and falling of the trachea and an unobtrusive clicking noise with each respiration, which persists after coughing), my experience gives no instance of recovery

Finally, the remarkable suddenness with which the changes occur in pneumonia is one of the features which is peculiarly characteristic The patient is stricken suddenly, he improves suddenly, he gets worse suddenly For this reason pneumonic patients should be given the most careful, observant, intelligent and unremitting attention Not only should the physician's visits be frequent, but in not a few cases he should be in constant attendance It is certain that the presence of the physician, ready to act at the moment when unfavorable and portentous conditions arise, increases the patient's chances of recovery, and I am convinced that, in many cases, if such medical attention is not supplied, he is being deprived of some of the resources of our art, and that his chances of recovery are thereby directly lessened I am quite sure that in few positions of peril can the resources of medicine be more humanely employed than in a well-generaled combat with pneumonia

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chlorids were absent, the leucocytes 32,800, 20 c c of serum were injected every six hours without any perceptible result, and the patient died

The third, a man of 40, had a mild attack, the serum produced no perceptible effect, and he made an uneventful recovery

The fourth, a man of 37, was admitted with signs of consolidation at the right base On the fourth day 100 c c of serum were injected in the course of sixteen hours The temperature, which had ranged between 103 and 104, steadily fell to 100 The supply of serum was exhausted, and eight hours later the temperature rose again to 103, where it remained for twenty-four hours A new supply was then obtained and 120 c c injected in twelve hours The temperature promptly fell to 99 and remained between 99 and 100 for three days, during which time 300 c c of serum were injected The pulse and respirations also improved Six days later there was a profuse urticarial eruption, with fever and pain in the joints the attack lasting eight days

DISCUSSION

ON PAPERS BY DRS WELLS AND SAILER

DR R C CABOT, Boston—Dr Wells' tables of the cases of pneumonia at the Massachusetts General and Boston City hospitals do not, in my opinion, show any increase in the mortality from this disease during the past twenty years Before that the cases are too few to warrant any conclusions whatever

DR G F JENKINS, Keokuk, Iowa—There are one or two etiologic factors regarding which some information might be given Since 1890 we have had an epidemic of influenza which of itself has not been particularly serious, but as an etiologic factor in croupus pneumonia it is of great importance Influenza affects the mucous membrane making it susceptible to secondary infection by the pneumococcus, and that is why it is more prevalent now than it was fifteen or more years ago Another etiologic factor is the crowding together of people in great cities This crowding lessens the resisting power and at the same time multiplies greatly the centers of pneumococcus infection I think these two factors will explain to some extent the great increase in croupous pneumonia With regard to venesection I think we should go back and study the question a little bit I think the proper use of cold water the proper hygienic surroundings fresh air, diet and venesection when indicated is very important

DR DELANCEY ROCHESTER Buffalo—There are one or two points in which I take issue, particularly the treatment of symptoms as symptoms when the possible treatment of the disease as a whole would overcome the symptoms It would be best to recognize the causes producing the symptoms, and treat them In cases of toxemia, if you get rid of it you will certainly get rid of the symptoms I think it is a great mistake to add, in these cases other poisons in the way of drugs when the patients are already poisoned by the toxins of the disease I approve of bleeding early in sthenic cases, but I disapprove of the administration of opium in the beginning I believe in getting rid of the poisons by the proper use of laxatives, particularly calomel and salts, and by one agent which acts on the skin to produce sweating, namely, hot air by means of a scientifically administered hot mustard foot bath by sweating we can get rid of the poison of pneumonia a great deal better than by the administration of diaphoretic medicines Last year at the New York State Medical Association I reported 210 cases of pneumonia, with 23 deaths, this included all sorts of cases and gave about 11 per cent mortality This is comparatively a very low death rate To relieve the pulmonary edema occurring late in the disease as a result of failure of the right heart, I believe that bleeding is of the utmost value, when in pneumonia the right heart becomes greatly dilated as in the case of a boy of 16 years, whose heart apex was in the axillary line with consolidation of the right lung, with a liver extending one inch below the border of the ribs and with pulsation in the veins of the neck, by withdrawing about 800 c c of blood the pulse can be made to fall from 140 to 120, and the temperature several degrees, and the respirations from 56 to 30, and impending death be thus averted, it is a procedure not to be neglected I think it is a mistake to treat the temperature If you treat the conditions present, the toxemia and then the special conditions as they arise, you can get good results The boy referred to recovered after nineteen days' sickness

DR ROBERT H BABCOCK, Chicago—I have been particularly struck by a statement made in the second paper that a patient died from pulmonary edema seven days after the crisis Pulmonary edema is usually supposed to be due to right heart failure, and the occurrence of the edema seven days after the crisis suggests the possibility of the explanation offered by an Italian experimenter that pulmonary edema is due, not to heart failure, but is a manifestation of pneumococcus infection acting on the pulmonary alveoli He found in cases examined after death evidences of this, since the pneumococci were demonstrable in the alveolar walls It certainly seems in this case that the late pulmonary edema might have been a manifestation of a fresh infection by the pneumococcus If I understood what Dr Wells stated concerning blood pressure, he insisted that it is low from the start I believe that if blood pressure is low at the start it is a contraindication to the administration of veratrum viride, in fact, I protest against the use of cardiac depressants when the blood pressure is already low He stated that the low blood pressure might be an effort on the part of nature to resist infection by setting free leucocytes, that is purely theoretical, but granting the assumption correct, I believe the harm likely to be done by veratrum offsets any benefit due to increased leucocytosis If the blood pressure is low, and grows lower and lower, then as the danger progresses digitalis is the agent par excellence We are all influenced by personal experience, but I think it well to cite what Fraenkel from his great experience finds useful He asserts that the tendency to low blood pressure must be combated, and is offset by the early use of digitalis The form he employs is a fresh infusion injected hypodermatically It is his rule to give four grams of the leaves in 100 c c of water and this amount is injected during every twenty four hours for three days until twelve grams of the leaves have been injected He begins the treatment in all cases seen before the third day, excepting those in which there is so much arteriosclerosis as to contraindicate the use of a drug Fraenkel believes death is the result of toxemia acting on the myocardium, and that, as this danger is enhanced by the low arterial tension, it is absolutely necessary to counteract the tendency to increasing lowness of blood pressure, and personally I believe this is sound reason

DR S SOLIS COHEN, Philadelphia—There are two periods in the clinical history of pneumonia in one or both of which venesection may in many cases be usually employed First in the beginning of the attack to reduce the toxemia Secondly, toward the end of the attack to reduce the overload on the right heart The results obtained in any particular case by venesection, or, indeed, by any other measure, can not, however, be applied to all cases without qualification, the keynote in the treatment of pneumonia, as much as in any disease, is individualization There are so many factors to be considered —the constitution and habits of the patient, the environment the preceding or concomitant complications, etc —that it sometimes becomes a delicate problem to decide what to do in any special case Whenever the indication for interference is not clear there should be no interference However, we may justly draw conclusions from similar features and relations pathologic and therapeutic, repeated in a great number of cases I am satisfied that a goodly quantity of blood may be removed from a patient otherwise in good condition (that is to say, not senile nor terminal infection cases, etc, but cases of frank pneumoccocus infection) at the inception of the attack, diminishing the amount of toxemia and stimulating the reproduction of healthy blood cells This is of benefit independently of the mechanical relief to the obstruction of the circulation in the lung Late in the disease the indication is purely mechanical When blood is removed under the first condition it is well to follow with saline infusion into the vein or under the skin—not too much, not too fast, but in the second condition saline infusion is not well given, because it does not seem reasonable to take blood to relieve the heart and then to add the same quantity of another fluid to embarrass the heart as much as before There is a qualification to this, however, and that is in cases in which the blood is very thick and runs sluggishly from the open vein Saline infusion will dilute it, and the respective quantities may be adjusted with skill Temperature in itself, unless excessive or very low, offers no indication for treatment I have learned to look on cases having temperatures of 103 104 or even 105 degrees F as being—other things equal—more favorable than those cases having a temperature of 100 to 101 degrees The vital reaction is better and the temperature seems to be an indication of this vital reaction Fenwick's statistics point in this direction too, and I was recently reminded on looking over my student notes of DaCosta's lectures that he had taught the same thing The matter is important because many patients are killed by the by effects of antipyretic drugs needless under any circumstances As to veratrum viride, it should be remembered that many drugs are used concerning which it may be said that their physiologic action as laid down in the text books seems to have little bearing on their effect as observed at the bedside I have seen some cases benefited by veratrum viride given early and stopped soon and I know not why Certainly the benefit has not been due to depression of the heart Dr Babcock has well said that this would be a counter indication Perhaps there may be something in the complex chemistry of infections and drugs and body cells and fluids, of toxins and antitoxins, amboceptors and complements which may hereafter explain its action For the present it has distinct empirical value used judiciously—that is before consolidation and for prompt effect using the pulse as an index diminishing the dose as the pulse falls and withdrawing the drug as soon as the pulse reaches 60 or 70 beats in the minute, or otherwise shows that the physiologic effect of veratrum has been attained This I repeat is an index only

Dr. Edward F Wells—In a twenty minutes' paper on pneumonia one can barely indicate a few of the general principles and can not go into a discussion of any of these features systematically In answer to Dr Cabot I stated explicitly that the very first effect of pneumonia on the system was a reduction of the arterial tension there is no doubt about this Within a few minutes of the onset of the pneumonic chill this reduction appears If this is an effort of nature to protect the system from the initial shock of a pneumococcus poison the question arises whether we should or should not assist nature, and I believe that, early, we should do so In view of this I have taught that veratrum viride, given early in these cases seems to offer a further protection from the violence of the initial shock Empirically we know that veratrum viride will reduce the frequency of the pulse and this without raising the arterial tension On the contrary the capillaries are still further dilated I most emphatically disagree with Dr Cohen as to the advantage of high temperature in this disease One hundred and sixty years ago it was stated by Cleghorn who practiced scientific medicine in the island of Minorica, that in pneumonia, in ordinary cases, the temperature in the afternoon reached 102 degrees F with a favorable prognosis, but in severe cases and with a bad prognosis it reached 104 degrees This statement applies to pneumonia to day as it did in the days of this great clinician I wish to set myself right regarding the use of opium I do not think any one appreciates more than I the disadvantages and dangers of the improper use of opium in pneumonia but because it may be improperly used is no reason why it should not be used intelligently, properly and beneficently I stated that in the beginning of the attack, during the course of the chill that 1/16 or ¼ of a grain of morphin given hyperdermatically, will quiet and soothe the patient and be very beneficial Also late in the disease, similar small doses of morphin, especially in those dangerous conditions accompanied by profuse perspiration and pulmonary edema small doses of morphin will stimulate the heart as nothing else can, and sometimes snatch victory from apparently certain disaster With regard to blood letting, from first to last, my only reason is to remove more or less of the toxins and I am quite satisfied that this is the keynote to the situation Occasionally one may bleed for the relief of an over distended right heart, but I always desire to anticipate that event if by the exercise of foresight and discretion it is possible to do so

Dr Joseph Sailer—In pneumonia I have invariably found the blood pressure to be low If very low I regard the prognosis as unfavorable In another series of cases I hope to employ the anti pneumococcic serum intravenously, chiefly because certain other serums, particularly the anti plague serum, seem to be more effective when introduced into the circulation than when introduced beneath the skin

OLD UNREDUCED DISLOCATIONS *

DE FOREST WILLARD

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PHILADELPHIA

The term, old unreduced dislocations, is here used to cover cases where the joint surfaces remain luxated for a month or more after the accident The delay in effecting reduction may have been due either to non-recognition of the condition or to the failure of the original manipulative replacement efforts The designation "irreducible" is a misnomer since a joint incapable of reduction by one method may be reducible by another procedure

DIAGNOSIS

The chief element in the prevention of this condition lies in immediate diagnosis at a time when reduction is easy, old dislocations exist because of faulty diagnosis With ordinary anatomic and surgical knowledge, with anesthesia and the Rontgen ray, primary diagnosis is usually a simple matter Whenever uncertainty exists in regard to an injury near a joint, anesthesia should be the rule, since without its employment the pain and swelling often render accurate diagnosis impossible Diagnosis once established, the treatment follows as a natural sequence If manipulative efforts fail, operative measures should be at once instituted The greatest difficulty will, of course, be, encountered in dislocations associated with neighboring fractures, especially in the shoulder region, while the cases most likely to be overlooked are those complicated by severe injuries of other portions of the body

In old dislocations of the shoulder, the body should be stripped to the waist and examined sitting and standing In fracture of the head of the humerus, or of the neck of the scapula, or a separation of an epiphysis, the elbow can be brought easily to the side of the body, and mobility is the rule instead of fixation In all old hip luxations the patient should be naked and examined in both the recumbent and standing posture By this method many errors will be avoided By comparison with its fellow, the loss of normal movements, difference in contour, altered relation of bones and restricted motion will be noted

Pathologic dislocations from hip disease, congenital dislocations, coxa vara, and sliding up of the trochanter after fracture of the neck, should be carefully differentiated Not infrequently I have been obliged in consultation to restrain attempts at reduction in cases both of hip disease and of neck fracture, which had been incorrectly diagnosed as luxations.

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard, Charles A Powers and J E Moore

COMPLICATIONS

Complications and obstacles preventing reduction are: Inflammatory adhesions and deposits causing partial narrowing of the hole in the capsule, lacerations of muscles and tendons, filling up of the socket by torn muscle or fibrous deposit, fracture of the rim, with bony projections, fragments of fractured bone, a portion of capsule pushed back into the socket, and lastly, the anatomic and surgical ignorance of the surgeon. In dislocations of either shoulder or hip, fractures of the rim are not at all uncommon; the fragments may be found in the socket, or more frequently in the neighborhood, giving rise to osteophytes, which interfere most seriously with reduction, even after open incision. Such an osteophyte was the cause of a fatal result in the hands of Dr. Allis and myself, in which instance the external iliac vein was torn over a sharp cockspur bony point during manipulation of an old hip dislocation.

ACCIDENTS DURING MANIPULATIONS

I shall never forget the suddenness with which a patient suddenly collapsed while I was assisting the late Professor Agnew, more than thirty years ago. In the midst of manipulations for reduction of a shoulder dislocation of six weeks' standing, a sudden ballooning of all the tissues about the axilla occurred, the patient became pulseless and apparently died, respiration ceased and the radial pulse disappeared. Instantaneous thumb pressure on the right subclavian artery arrested the current through an apparently ruptured axillary artery, and by the prompt application of restoratives the patient survived. The enormous hematoma that formed was afterward believed to have been produced by the tearing of the axillary vein. When the pulse returned at the wrist the tumor did not pulsate.

In Agnew's case only manipulations were employed, but in former days, when pulley traction was much more commonly used than at the present time, it was not remarkable that these accidents were common. Guerin tore off an entire arm. Bell tore the axillary structures to such an extent that immediate amputation was necessary. In other cases, gangrene has occurred, followed by either death or amputation. Gibson in 1823, in accordance with the practice of that day, after a week's depletion of blood letting, tartar emetic, etc., subjected the man to pulley extension and counter extension for half an hour, then manipulations were practiced for one and three-quarters of an hour more, one of the procedures being to hang the patient by the axilla over a door. As this was in preanesthetic days, and as the surgeon was obliged on the following morning to tie the subclavian for a pulsating tumor in the axilla, it is rather strange that the patient lived until the eighth day, with the arm in a state of incipient gangrene. The artery was found to have been firmly attached to the head of the bone and capsule.

Lister in 1873, in an old forward dislocation, ruptured the axillary artery with pulley traction by tearing a fibrous band attached to the coracoid and humerus. He tied the artery through an axillary incision and resected the head, but the patient died on the following day.

In twenty-four cases of injury to the axillary vessels during reduction manipulations collected by me[1] fifteen terminated fatally, the result in two cases was uncertain, the axillary nerves were lacerated in one case, in another the brachial plexus was torn from the spinal column. Michans tore off both the median nerve and the brachial artery in reducing a luxation of the elbow, but saved the case by amputation. In the reduction of a posterior dislocation of the head of the femur, the sciatic nerve has been hooked up and carried forward in front of the neck of the femur, with great resultant tension and pain, flexion of the hip and disability.

OPERATIVE METHODS

1. Manipulation and traction. 2. Continuous extension and counter-extension. 3. Arthrotomy, with section of all tissues interfering with reduction. 4. Resection, with replacement, when possible. 5. Subcutaneous incision of capsule or of surrounding tissues, a procedure usually uncertain and dangerous.

Manipulation and Traction.—In former times the resistance of the muscles was considered to be the chief element in the prevention of reduction, consequently extreme force by pulleys was employed, even to the tearing away of the limb. At the present time, recognizing that the muscles are only one of many obstacles involved, intelligent manipulation is considered of the first importance. An extreme degree of force should be avoided lest serious injury result. Full anesthesia should be secured and moderate manipulative and traction efforts instituted. These will vary with each joint involved, in accordance with the usual methods pursued in primary cases, being varied to suit the position of the bone, the present condition as shown by palpation, the skiagraph, etc. Hand movements are, as a rule, much safer than instrumental.

Shoulder.—The manipulative efforts at the shoulder for the reduction of an old dislocation will vary but little from the ordinary ones employed in recent reduction, save that great caution must be observed in the preliminary breaking up of adhesions. Serious accidents, as already enumerated, or fractures may readily be produced by undue force. The indications are: to fix the scapula, apply traction, adduction, external rotation, pressure on head, adduction, flexion, internal rotation.

The old method of upward traction was a most dangerous one, as it put great tension on the axillary tissues; outward traction is less risky, but should be employed *with caution.*

Reduction efforts rarely succeed four months after the luxation.

Hip.—An old hip-joint dislocation is a most formidable condition to encounter, and, next to the shoulder, this joint is the one most liable to be involved; it is also an injury most frequently undiagnosed, as the condition of fracture or of dislocation is often masked or overlooked when anesthesia has been carelessly omitted at the time of the original injury.

I recall a case that occurred twenty-five years ago, in which the man, three months after a heavy fall of earth compressing his body, was discovered to have a dorsal dislocation of the left hip. Under ether I readily reduced this and placed it in the acetabulum with a distinct thud, and with the immediate resumption of the normal position of the leg. When comparison, however, was made with the right leg, it was discovered that the leg which had just been reduced was shorter than the one of the opposite side. This condition was very puzzling, until it was seen that the right leg was not only longer, but was also slightly everted, and that there was a fullness in the region of the thyroid foramen, thus showing that there had been a forward simultaneous dislocation of the opposite hip, both legs having evidently been forced in the same direction All efforts to reduce this failed, although, with the assistance of Dr Allis, I applied all the then known methods of manipulation, leverage, traction, etc The head could be carried to the position of dorsal dislocation, but could never be placed in the acetabulum The fact that the left acetabulum had not been filled up through the three months, and that the rent in the capsule had not united, proved that other complications existed which prevented reduction of the right hip What these complications were, of course, we could not determine, as at that time neither Allis nor myself was bold enough to cut down on the joint Ten years later the man was doing hard laboring work

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[1] 1. Phila. Med. Times, Aug. 16, 1873.

Allis,[2] who has given most thorough experimental and practical work to hip dislocations, says that the greatest injury to the capsule is confined to the lower two-thirds, and that the upper thickened portion of the capsule, known as the Y ligament, is rarely lacerated, which accounts for its great service in restoration The strong upper rim of the acetabulum, the surrounding muscles and the dense capsule, are all important elements in the prevention of a luxation

A careful consideration, therefore, is necessary as to the probable character and direction of the force, whether a sudden blow or a slowly crushing power has been exerted The *x*-ray is here most useful in determining the extent of the fractures and bony complications

Allis' fundamental law is that a dislocated joint should be restored through steps in the reverse order of the displacement, consequently his manipulative reduction is based on the knowledge that the lower portion of the capsule is the one torn and that the head of the bone in dorsal dislocation, therefore, needs to be elevated into place He first fastens the pelvis firmly to the floor by inserting into the wooden flooring three hooks—strong opened screw eyes—one near the perineum, and one on either side opposite the crest of the ilium To these hooks the pelvis is firmly bandaged over towel pads To avoid interference in the groins from the bandage, a flat metal cross, with its four ends curved on themselves sufficiently to hold the strips of the bandage, is placed above the pubis To-and-fro turns of the bandage are then made from these hooks to the screw hooks in the floor The femoral head is drawn downward by traction, then the flexed knee is lifted over the flexed arm of the surgeon until the head of the femur is brought opposite the acetabulum, if it catches on the rim, the surgeon steps across the opposite limb, carrying the knee with him into extreme adduction, while traction is still made toward the ceiling, and an assistant's hand is employed to lift the head into the socket Reduction is usually accomplished with an audible snap If it does not occur the knee is then carried across the body to a state of abduction while steady, simultaneous upward traction is employed To increase the surgeon's tractile power perforated iron bars are securely fixed with wet bandages to the sides of the lower half of the thigh A rod connecting these bars makes an excellent handle for the surgeon in his traction and manipulation efforts Fix pelvis flex thigh, turn leg and heel out lift press on head turn leg in, extend

Second or indirect method, employing the Y ligament of Bigelow as a fulcrum When the head has been lifted as already described to a position just below the acetabulum, carry the knee with the leg flexed directly downward in extension, the Y ligament will thus be made tense and the head will be lifted into the socket Bigelow's manipulations are flexion, abduction, eversion

For a thyroid dislocation the reverse manipulations may be practiced, still following the law of reversed order, or the head may be thrown into the dorsal position and then reduced In the forward dislocation first flex, abduct and make traction outward, then an assistant presses on the head during adduction and traction Forward dislocation, second method, utilizing the Y ligament, flex, abduct, carrying the knee obliquely inward and downward, then rotate outward, not circumduction, lest the sciatic nerve be hooked up

Bigelow's manipulations for thyroid dislocation are flexion, adduction, inversion, lifting, circumduction

Continuous Extension and Counter-extension —After failure of reduction by manipulation, a very useful adjuvant, especially for the lower extremities, is the application of continued weight and pulley extension in bed for a week or more, so as to relax and quiet muscular action At the end of this time, under thorough relaxation by ether, manipulative efforts may be successful, although failure has occurred at the first attempt

In the upper extremity it is much more difficult to apply continuous extension satisfactorily, even with air pads in the axilla and Stimson's couch with its perforation for the arm

Arthrotomy and Excision —When manipulations fail, the question of open operation becomes a serious matter, especially at the hips The tissues surrounding the joint have not only been originally injured, but have also been subjected to repeated traumatisms during the several efforts at reduction Their resistive power to infection has consequently been greatly lowered, and septic influences easily prevail, as is well instanced in the following case

A man, 28 years of age, with an eight month old dorsal dislocation of the hip that had resisted eight attempts at reduction by as many different surgeons, applied to me for relief The hip was immovable and useless A carefully planned and systematic effort at reduction was made by myself, assisted by Dr Allis, but without avail At the earnest solicitation of the man I consented to operate An incision was made over the trochanter, head and neck in the line of the gluteal muscles, separating the fibers, the tissues were cut away and the capsule opened, but the acetabulum could not be reached An anterior incision was then made in the triangle formed by the tensor vaginæ femoris and the sartorius The head of the sartorius and the long head of the rectus were cut away, the psoas was also cut from the lesser trochanter, the capsule opened strong traction applied, the acetabulum was found filled to the level with fibrous tissue almost as tough as tendon This was cut away with gouge and spud, and a large quantity of thickened tissue was cleaned from the head, which was even then reduced with great difficulty The cushion in the acetabulum still prevented the head from sinking more than one half into the cavity, the bone was, therefore, redislocated and the acetabulum absolutely cleared, at last the head remained easily in its socket, thorough drainage with rubber and gauze was introduced and the limb fixed with plaster of paris, slightly abducted and everted, and nearly in line with the body The hemorrhage was considerable, but no ligatures were required after clamp hemostasis The man vomited persistently from the time of operation, and died a week later from septic endocarditis The operation was long and severe, the chances for infection were numerous

Dr Thomson fractured the femur in an attempt to reduce an old dislocation of the hip He very wisely opened the joint, reduced the dislocation and the fracture, and retained the latter in position with a silver nail, thereby securing a good result

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[2] Dislocations of the Hip Cross Prize Essay Phil 1896 Octavo p 167

Shoulder The necessity for operative relief will depend largely on the amount of disability and the extent of the pain, the latter being caused by pressure on the nerves and vessels

In a two-month-old subcoracoid dislocation of the shoulder, after failure of manipulative methods, and finding the head thoroughly fixed, I made an incision in the pectorodeltoid groove and resected a portion of the capsule and of the spinati muscles As the luxation still refused to yield a second incision was made about the middle of the deltoid, separating the fibers, and after thoroughly dividing the tissues the head was at last successfully placed in the glenoid cavity The capsule was so greatly injured that its remnants were stitched with catgut to the acromion, the arm was fastened across the chest with a plaster-of-paris bandage, and, after two weeks, gentle passive movements were instituted, with good recovery of motion but with slight loss of abduction and elevation

In a shoulder joint that was dislocated fifteen years previously through a football injury, and where the head of the bone slid back and forth on the anterior ledge of the glenoid, with some eighteen subsequent luxations inflammatory swellings and great disability, I made one incision in front of the deltoid and another through the center of the muscle, separating its fibers The outer portion of the capsule had evidently been torn away at the time of the original injury, and the inner portion had been subsequently elongated and stretched After replacing the bone the external portion of the capsule was stitched to the acromion and the anterior capsule folded and fastened with a chromicized catgut The arm was held for several weeks in front of the thorax until good union had been secured, after which forward movements were especially encouraged, and a firm joint secured [3]

The best access may be obtained to this region and the least injury done by cutting just posterior to the cephalic vein, in the groove between the deltoid and the pectoral, this gives excellent access to the head The axillary incision, while more dangerous, is sometimes necessary when the adhesions between the head of the bone, arteries, veins and nerves are dense, and is also an excellent incision for resection, although through it the glenoid is less easily reached If incision is made over the middle of the deltoid the fibers should be separated as much as possible, not divided, so as to avoid loss of abduction and elevation The posterior incision, which starts beneath the acromion, is most liable to injure the circumflex nerve (which runs just below the acromial ridge), thus cutting off a large portion of the innervation of the deltoid It affords easy access to the glenoid, but not to the head Even with the anterior incision there will be some atrophy of the internal fibers of the deltoid, but this loss is partially compensated by the pectoral The old operation of cutting off the attachment of the deltoid is a bad one If the biceps tendon is torn or cut, it should be restitched In excisions it is better to take away too much rather than too little Hemorrhage is greatly lessened by closely hugging the bone with bone gouge or chisel It is sometimes necessary to divide the tendons of the infraspinatus and supraspinatus, the long head of the biceps, subscapularis and teres minor After freeing the tissues about the head and neck of femur or humerus, I have sometimes had the greatest difficulty in replacement and have been obliged to divide all the tissues most freely In some cases traction on the head may be made through the incision by placing a curved bone elevator or strong wire about the head, by using a lever, or by drilling the bone and inserting strong steel hooks When the glenoid cavity is filled with a tough cicatricial fibrous mass, the socket must be cleared with gouge and knife In the young, great care should be taken not to injure the epiphysis, and resection should not be employed except under special circumstances The natural accommodative mobility of the scapula must be taken into account, and the amount of adhesions The subsequent fixation and pain depend largely on the original injury and the position of the head In resections the keyhole saw or the heavy chain saw is advisable Owing to the liability of breakage, I have had a chain saw made from an old écraseur When old dislocation and fracture coexist, the question of manipulation or arthrotomy or excision is a serious one The broken fragment may have united to the bone in bad position, or it may have become thoroughly adherent to surrounding tissues, or it may be entirely disconnected Fragments may be nailed or wired in position Resection of the head of humerus or femur, though often necessary in these cases, should not be undertaken as a positive rule, since a completely reduced upper joint fragment can sometimes be treated the same as an ordinary fracture and a fairly useful joint secured In cases of doubt, an excision may be deferred in old persons until the amount of pain and disability is definitely ascertained, yet a resected shoulder joint, provided the muscles are not too seriously injured, often gives a more useful arm than the stiff ankylosed one so often secured by the forcible reduction of an old injury Pressure of broken fragments on the axillary vessels and nerves usually gives great pain and demands resection In one of my cases, however, where both dislocation and fracture existed, the aged man was so far advanced with locomotor ataxia that he was practically helpless, and lived several years without any serious inconvenience from the presence of the head in the axilla In other cases, however, the pain is extreme, in others the inflammatory adhesions fasten the tissues in a mass which will not only resist attempts at manipulative reduction, but even persist in spite of open incision Fractures of the shaft of the humerus and of the femur are not uncommon during efforts at reduction

It is extremely important that every aseptic precaution be taken, as disturbance of tissues already below the normal resistive point is prone to give septic results Drainage either by rubber tube or gauze is necessary on account of the severity and length of the operation

Arthroplasty —I have tried a number of methods to prevent the union of joint surfaces, but nature, while sometimes tolerating a foreign substance usually rebels against its continued presence Gold or silver foil is less irritating than rubber tissue The best method is, when possible, to turn in a flap of fascia or connective tissue

Results —Souchon[4] gives, in his admirable compilation, the histories of 133 operative cases of old shoulder dislocation, with their results, accompanied by a complete bibliography He gives the deaths immediately following the operation as 13 per cent, with an additional 10 per cent subsequently, the chief causes being gangrene, hemorrhage, sepsis and pneumonia Of the collected cases about 27 per cent suppurated Naturally, sepsis was much more frequent previous to 1885 A good result, however, has, according to statistics, been secured in over 50 per cent of cases

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[3] Burrell s operation for this condition of habitual dislocation is an excellent one Trans Amer Surg Asso, vol xv, p 293

[4] Operation of Irreducible Dislocation of the Shoulder Joint, Trans Amer Surg Asso 1897 octavo, p 138

Reerink gives the fatality of shoulder excision in 47 operative cases, 14 became infected and 8 died of sepsis and other causes

Elbow A dislocation of the elbow sometimes remains undiagnosed and becomes fixed in its malposition In a case of four months' standing (Fig 1) after the first failure at reduction I applied extension for a week The woman was pregnant at the time, and the method gave so much pain and annoyance that after the second unsuccessful attempt at reduction I resected the condyles of the humerus through two lateral incisions (in preference to the posterior triceps cut), brought the ulna into position and secured a useful movable joint A letter received last week states that the fetus was carried to full term, and that the elbow movements are nearly perfect, although strength is impaired

Head of the Radius An old dislocation of this joint is often difficult to replace, but extension, strong pressure and rotation will sometimes accomplish it If unsuccessful, the joint should be opened, replaced and stitched or resected

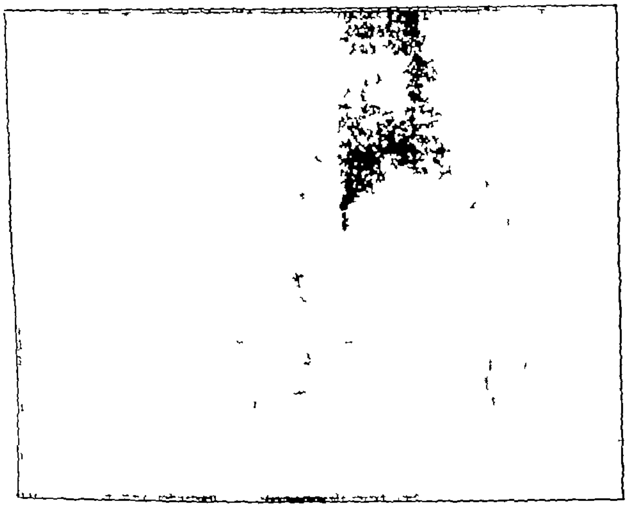

Fig 1—Lateral dislocation of elbow four months duration

Clavicle In an old dislocation of the outer end of the clavicle, Hopkins was able to hold it firmly in place by carrying an X-shaped suture of silkworm through two drill holes in each bone, silver wire would answer the same purpose, or a firm nail could be used

Jaw In a three-month-old dislocation of the jaw Mixter applied lever extension with the fulcrum opposite the molars, and after forty-five minutes was able to reduce the dislocation

Thumb In old dislocations of the phalanges, where the head of the bone has passed between the tendons, these dense structures often resist all efforts at replacement and open incision is imperative

AFTER-TREATMENT

Passive movement should be instituted very early after reduction, and after operation in all old luxations Electricity, massage, voluntary and involuntary muscular movements, gymnastics and other measures for the restoration of function must be continued for a long time

CONCLUSIONS

1 Early immediate diagnosis is the most important element in preventing the existence of old unreduced dislocation With ether, the *x*-ray and anatomic and surgical knowledge, a recent displacement ought always to be discovered by the surgeon Immediate reduction by manipulation or open operation should follow

2 An old, unrecognized dislocation should be carefully examined under the *x*-ray and ether to discover the extent of adhesions and the possibility of effecting reduction without extreme measures The manipulations to be practiced are practically the same as those employed in recent luxations but greater caution is necessary Failing in these, continuous extension in bed should be practiced for a week, the second attempt, without the application of extreme force, should then be made, the permission of the patient having been previously obtained to permit of open operation, if deemed necessary

3 Open section should include the division of all muscular tendinous, capsular and bony obstacles to reduction When the socket is filled up with dense fibrous tissue such tissue should be excavated, and the head of the bone placed *in situ*

4 Partial or complete excision of the head and of fragments in case of fracture will frequently be necessitated

5 In cases that have existed more than a year, or where the original injury has been extreme, operation should be avoided unless pressure on nerves or blood vessels is seriously impairing the usefulness of the limb or giving pain, but resection should be practiced in bad late cases, with pain and serious nerve symptoms

6 Sepsis is frequent on account of the severity and length of the operation, and especially by reason of the non-resistive ability of the tissues due to the original injury and to repeated traumatisms from manipulative efforts

7 Pain, disability, age and occupation are the most important conditions in arriving at a decision concerning operation When a limb is useful in its new position, gives no pain or difficulty it should be let alone

8 In the after-treatment, muscular gymnastics, electricity, voluntary and involuntary muscular movements and massage are very important measures and should be persistently employed These manipulations require both patience and pluck on the part of the patient

DISCUSSION

Dr A F Jonas, *Omaha*—My personal experience with old dislocation of the joint is limited almost entirely to the shoulder joint, of which two years ago I reported seven cases Of these, six were operated on and one was not One feature of the operative cases was common to all, and that was the contraction of the capsule The first of the series had remained unreduced for three or four months I began to use Kocher's manipulations, and it became reduced by this method The remaining seven cases were reduced by manipulation The structures which opposed reduction varied with each case In one the coracoid process was broken off and had become adherent *in its* new locality Before it could be replaced it was necessary to remove this broken off portion of the coracoid In another case the long tendon of the biceps stood in the way of reduction, but the contracted capsules of the joints gave most trouble Extirpation was necessary in one of the cases Usually the head of the bone was replaced, but in most of the cases we injured the circumflex nerve, owing to the amount of manipulation We could not always locate it, and in most of the cases we had atrophy of the deltoid muscle Strangely, the mobility of the scapula is such that all of these cases were able to perform the duties to which they had been accustomed There were no deaths, and the recoveries were all by primary union So far as adhesions to other joints are concerned I only recall one of dislocation at the head of the radius which had existed for four or five months I had to cut down on the head of the radius to replace it in its normal position

Dr C E Thomson, Scranton, Pa —I will report one case of dislocation of the hip My patient, a miner, was injured last June by being run over by a mine car The leg was lacerated and was amputated five weeks later four inches below the knee At that time the dislocation of the hip remained undiscovered He came to me last February, when I attempted to reduce his old dislocation I used the Allis method of fixation of the hip While Dr Allis recommended it so enthusiastically for experimental work on the cadaver, he was a little chary about recommending it on the living patient We used it most energetically, without any injury to the patient further than slight excoriations After the most energetic manipulations we failed to reduce the dislocation Having failed by the Allis method, we tried the Kocher method, with disastrous results Notwithstanding that we had but a stump to manipulate, we broke the bone between the trochanters—an oblique fracture—by the Kocher method Ten days later we renewed the attack and succeeded in reducing the dislocation with long, blunt hooks similar to those used for handling meat We used anterior and posterior incisions similar to Hoffa, and the patient made a good recovery The fracture was held in place by a specially devised nail Union has taken place in the fracture and we hope he will have a useful stump

Dr. A D Bevan, Chicago—Five years ago I reported a series of cases of old dislocations reduced by operative methods, and in practically all of them we had a complicating fracture The dislocations of the shoulder had no complicating fracture If reasonable efforts at reduction by mechanical means fail, then an *x* ray should be taken to see if there is a complicating fracture It is impossible to make an incision in such a direction as to expose the acetabulum before you expose the end of the femur The capsule should be exposed and freed before the head is exposed. As to the importance in the work of operation on old dislocations of the elbow of sacrificing the triceps tendon, if you expose the joint you will almost invariably find a piece of bone preventing reduction I have obtained better results since I have paid attention to this I do not think I have injured the circumflex nerve and produced resulting paralysis but I rather think we have had an ankylosis, with an atrophy of the deltoid from lack of use I believe that where great force is necessary to reduce an old dislocation of the shoulder we are more apt to obtain a satisfactory result by resection of the head of the bone

Dr J A Blake New York City—I have had very little experience with old dislocations of the hip, but have treated several of the shoulder, and I am inclined to operate rather than make prolonged or forcible attempts to reduce by mechanical means I split the fibers of the deltoid as near its anterior border as possible in order to avoid injuring its nerve supply If this does not afford sufficient access, a supplementary transverse incision is made just below its attachment to the acromion, which also preserves the integrity of its nerve supply Excision of the head of the bone may be done in some cases After removal of the head the functional result is often excellent I have recently seen a resection of four inches of the humerus for new growth, and the result has been almost perfect as regards function As to the elbow, lateral incisions give the best access

Dr G T Vaughan Marine Hospital Service, Washington, D C —We are all agreed that there should be no old dislocations of the shoulder, if one can not reduce them one should operate at once Sometimes this is not done, and they come for treatment I had one case of this kind in which the detached greater tuberosity of the humerus was located directly over the glenoid cavity Several attempts had been made to reduce it, and it was thought with success, but the patient continued to suffer great pain for two months I tried all the various methods of manipulation before cutting I do not approve of the method of placing the foot or the hand in the axilla, having on two occasions fractured a rib by using the foot in the axilla as a fulcrum I made an incision and found the glenoid cavity filled with bone On locating the head of the humerus, I found this bone was the detached greater tuberosity, which had to be dissected out from its attachments over the glenoid cavity Extension and counter extension is the best method by which to treat these cases, as it is least likely to do harm, and if it fail can be followed by Kocher's or some other method

Dr J P Lord, Omaha, Neb —We should take our cue from the recent experience of the orthopedists and adopt the suggestions voiced in last year's orthopedic association rather than resort to excessive force in order to reduce these dislocations It has been my recent experience that this facilitates the reduction of the head of the femur, and it is my belief that injury of the nerves and blood vessels, nerves especially, is produced more by the effect of the lever action which we produce in our manipulation than by the traction If we overcome this resistance by tenotomy and not exert this pressure on the nerves as we do with our forced manipulation evils, we will not produce these dire consequences We should not operate immediately after severe traumatism has been produced by this bloodless reduction Dr Willard did not emphasize that sufficiently Consent to open operation should be obtained if manipulative methods fail I do not think we should undertake the operation until after severe manipulative measures have been resorted to

Dr Charles A Powers, Denver—A number of years ago I saw many unreduced dislocations of the shoulder at the Chambers Street Hospital in New York, and so far as I can remember none which had been out more than ten or twelve weeks was replaced without operation At that time I carefully studied the paper of Kocher, which many of you remember reading fifteen or twenty years ago and in which he stated that old dislocations could be reduced by his well known manipulative methods I was never quite able to understand Kocher's reasoning or his results in old dislocations The adhesions must be thoroughly broken up before reduction by any method of manipulation The breaking up of adhesions must be done, however, with utmost caution I am heartily in accord with Dr Willard in thinking that open operation should be resorted to more frequently I would like to put on record a case of intracoracoid dislocation of the shoulder of four months' standing which, to my surprise, was easily replaced after from eight or ten minutes of manipulation This was in a woman of over 60 years, a patient of Dr P V Carlin of Denver Where an old luxation can be replaced by manipulation it is, of course, best to do so, but we are always to bear in mind the dangers attending too forcible manipulative effort

Dr Willard—Anklyosis of the shoulder joint is an unfortunate condition, especially for a woman, and resection of the head of the humerus is often preferable The breaking up of adhesions in an old dislocation is the most dangerous part of a reduction Open arthrotomy with resection of the fragments is often the better operation

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Foam-Producing Power of Urine, Aphrometric Test.—A Bignon of *Lima*, Peru, calls attention to a means of testing the urine by its power to produce a durable foam when shaken up with water and acetic acid The *Boletin de la Academia Nacional de Medicina* 1904, ii, No 1, contains his communication on the subject with detailed accounts of his tests He establishes as the standard the number of cubic centimeters of the urine for one hour, diluted with water to 200 c c, which will produce a foam lasting for half an hour when shaken up for one minute with 100 c c of a solution of acetic acid (15 c c of acetic acid to the liter of water) In normal conditions about 1 5 c c to 3 5 c c of urine are required to produce this result, but in abnormal urine a much smaller amount is sufficient When the foam can be induced with less than 1 c c of urine it should be regarded as suspicious He is now studying the application of the test to milk wines, etc He calls it the aphrometric test, from the Greek word *aphros*, foam The term aphrodisiac is derived from the same root, from the legend that Venus (Aphrodite) was born from the foam of the sea

AUTOCHTHONOUS SINUS THROMBOSIS OF THE CEREBRAL DURA

WITH A REPORT OF THREE CASES *

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While secondary thrombosis, such as follows middle-ear disease, has elicited great interest and been carefully studied in recent years, especially on account of its surgical treatment, the primary form, the autochthonous sinus thrombosis, because of its indefinite symptomatology, its uncertain treatment and its comparative rarity, has received much less attention

Since the year 1899 there have come under our observation three cases of autochthonous sinus thrombosis

The first case, reported by Drs Wadsworth and Spiller,[1] is as follows

CASE 1—The patient, a boy, aged 7 years, according to his mother's account, had always been in good health and had been bright at school On March 3, 1900, at 1 30 p m, he complained of headache and vomited, at 3 p m he became unconscious, and at 9 20 p m he was taken to the hospital At that time he was still unconscious, the veins of his face were engorged, the pupils dilated and immobile, the pulse weak and rapid, and the respirations slow and irregular (Cheyne-Stokes type) The temperature varied from 99 4 to 100 degrees Fahrenheit Cyanosis was not present He reacted to irritation with a pin Death occurred at 12 30 p m the following day, March 4

Autopsy—At an autopsy held on the same day nearly a pint of clot and fluid was found in the ventricles of the brain, and a clot was found partially occluding the jugular foramen on the left side Further examination showed that a clot had formed in the united veins of Galen at their union with the straight sinus The thrombus was oval in shape, about three quarters of an inch long by one-half inch wide, and consisted, as shown by the microscope, of recently clotted blood

The superior longitudinal sinus was entirely occluded and calcified in its middle portion This occlusion was probably the result of a previous thrombosis The blood from the anterior portion of the superior longitudinal sinus had formed a new passageway between the layers of the falx cerebri. This passageway was not lined by endothelial cells, and conveyed some of the blood from the superior longitudinal sinus to the straight sinus at its junction with the inferior longitudinal sinus, and some of the torcular Herophili The thrombus formed in the united veins of Galen had evidently caused the hemorrhage into the lateral ventricles and death

The second case was reported by Dr S McC Hamill[2] and is included here because Dr Hamill gave the brain to us for microscopic study His clinical notes abbreviated are as follows

CASE 2—No history of syphilis in the mother was obtained The patient was born normally and was not asphyxiated The temperature was slightly elevated from the second day after birth On the seventh day after birth a papular eruption developed on the face and the temperature rose to 104 degrees There was no gastrointestinal disturbance On the fourteenth day marked twitching of the muscles of the right eye and constant lateral rotation of the head were observed General convulsions did not occur The child was somewhat cyanosed and nursed poorly, but did not cry The next day the child was somewhat better, but on the sixteenth day the temperature rose to 100 8 degrees and he vomited a large quantity of altered blood and passed several tarry stools The face became much cyanosed. Death occurred on the same day

Autopsy—At the autopsy, twenty hours later, several thrombi were found in the umbilical arteries The liver was abnormally large The brain showed a large mass of clotted blood overlying the left hemisphere, more marked anteriorly This extended into the substance of the brain, causing some destruction of tissue Overlying the left hemisphere was a less marked hemorrhage

The superior longitudinal, the left lateral, the straight sinus and the veins of Galen contained firmly organized thrombi The veins of the brain were distended with blood and some of the superior cerebral veins, on the left side, contained thrombi Both lateral ventricles were dilated and contained considerable blood, especially the left

Microscopic Examination—There was no round celled infiltration of the pia mater, of the medulla oblongata or cortex and the walls of the blood vessels were not thickened The pia about the medulla oblongata was infiltrated by a great number of red blood corpuscles, as was also the optic chiasm The optic chiasm did not stain well by the Weigert hematoxylin method, probably because it had been kept in formalin There was no cellular infiltration about the blood vessels of the cortex Sections taken from portions of the cortex showed numerous minute hemorrhages and intense congestion of the capillaries of the tissue The extensive hemorrhage had destroyed the upper part of the cerebral hemispheres, including the paracentral lobules, so that the Betz cells could not be studied

A third case is a recent observation The clinical notes obtained from the case-book of the Pennsylvania Training School for Feeble-Minded Children, of which institution the child was an inmate, are as follows

CASE 3—S M, female, 15 years of age at the time of her death. Seven years previously it was noted that her gait was peculiar and was described "as if she were walking on eggs This probably means that the child was spastic There was unilateral exaggeration of the knee jerk Mentality was low and vision was imperfect Epileptic attacks occurred and usually began in the arms and face, finally involving the entire body

Aside from her mental condition, which steadily deteriorated, there was no change noted until four months before her death, when it was observed that while not unable to walk, she disliked to do so and kept her chair as much as possible Her sight had become still more defective and co ordinate movements were impaired, although the grade of imbecility prevented accurate tests No areas of anesthesia were found The child was peevish and prone to cry without cause

Her condition gradually became worse until locomotion was impossible In bed, her thighs were flexed on her abdomen and her legs on her thighs During the last three weeks of life great swelling of the feet with a tendency to the formation of blebs was observed Speech was impossible for three weeks prior to her death, and for the last five days lifting her chin and so permitting fluids to gravitate to the stomach was the method of feeding her Rise in temperature did not occur until the day before her death Her heart action, pulse and respirations were regular and normal

A record of the number of epileptic attacks shows that in 1901 she averaged eight per month, the highest number in any month was eighteen and the lowest was three, in 1902 she averaged the same, but the highest in one month was sixty five and the lowest was two, in 1903 she had forty three attacks in January, eight in February, three in March and nineteen in April She died May 18, 1903

Autopsy—At the necropsy made May 19, the brain was found to be very edematous The superior longitudinal sinus one lateral sinus and the veins of Galen were thrombotic

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* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs V C Vaughan Frank B Wynn and Joseph McFarland

[1] Proceed of the Path Soc of Philadelphia Oct 1900 p 207

[2] Archives of Pediatrics 1903 p 264

Many of the blood vessels on the superior surface of the brain were occluded and a small collection of purulent matter was found about one of the blood vessels of the parietal lobe The brain weighed 1,000 grams

There were no signs of the thymus gland

The right lung was not especially congested It was crepitant No distinct tubercles were found It weighed 170 grams The left lung was much more congested and appeared to be in a state of red hepatization The upper lobe was congested, but not so much as the lower A piece of the lower lobe sank when placed in water The left lung weighed 280 grams

The heart was not especially fatty A chicken fat clot was found in the right ventricle and one also in the left auricle The valves were normal The weight of the heart was 145 grams

The liver was not enlarged, but moderately congested

The kidneys and spleen were normal

The lower limbs were somewhat atrophied The spinal cord examined macroscopically, appeared normal

The brain and cord with their membranes were removed and preserved for microscopic study

Sections from the paracentral lobule from each side showed considerable round-celled infiltration of the pia, with the blood vessels greatly congested and their walls thickened The capillaries of the cortex, especially on the left side were unusually prominent and a moderate round celled infiltration was found about them The Betz cells were apparently normal

Within a blood vessel taken from the cortex was found a large mass consisting chiefly of multinuclear cells, about this blood vessel there was a slight round celled infiltration Another blood vessel showed a marked cellular infiltration about it The cells here were multinuclear and had probably migrated from the blood vessel A blood vessel from the choroid plexus was surrounded by a very intense cellular infiltration, the cells being chiefly multinuclear The blood vessel in this section was occluded by a dense mass consisting apparently of fibrin A section from the left lateral sinus showed the sinus filled with a partially organized thrombus, no endothelial lining was found The optic chiasm was not degenerated, but a moderate round cell infiltration was found in the pia about the chiasm

The right and left third cranial nerves were normal

A moderate amount of round cell infiltration was found in the pia mater of the medulla oblongata and the walls of the blood vessels here were much thickened The anterior pyramids were fairly well stained by the Weigert hematoxylin method

Sections through the cervical enlargement showed no distinct round cell infiltration of the pia, and the nerve cells of the anterior horns appeared normal The crossed pyramidal tracts were very distinctly, but not intensely, degenerated The direct pyramidal tracts, by the Weigert hematoxylin method were not affected

The mid thoracic region showed the same degree of degeneration of the crossed pyramidal tracts as was seen in the cervical region Cellular infiltration was slight throughout the spinal cord

The degeneration of the crossed pyramidal tracts extended down into the lumbar region, and disappeared upward in the medulla oblongata The microscopic examination showed the presence of lesions like those of cerebrospinal syphilis The disease was probably hereditary in this case, and in all probability had caused the thrombosis of the dural sinuses

These three cases belong distinctly to that class in which the thrombosis is due to a general bodily condition Primary sinus thrombosis, or that form which is not due to direct extension of disease processes of the face or head, has excited a certain amount of interest during many years

Th v Dusch[3] collected 58 cases of sinus thrombosis, of which 32 were due to gangrenous, erysipelatous or suppurative inflammation of parts of the body whose vessels are in close connection with the sinuses In 4 the thrombosis appeared to result from tumors, etc, causing pressure on the sinuses or internal jugular veins Fifteen cases were supposedly caused by lessened circulation from debilitating diseases, especially in those already in feeble health, as in children or the aged In 6 cases no cause could be ascertained One case he added as a supplement to his paper

Comprehensive papers on the subject of sinus thrombosis have also been written by Lancial[4] and by J A Lidell,[5] the latter author having collected a number of cases Lancial collected 7 cases from the literature which he considered as cachectic in origin, i e, as produced by a debilitated condition of the organism The cases that he collected were those reported by Tuckwell,[6] Corazza,[7] Wiglesworth,[8] Rotch[9] and Grancher[10] Rilliet and Barthez[11] reported 18 cases, and Bouchut[12] 35 cases of cachectic thrombosis

In addition to the cases referred to above, we have studied cases reported by Fisher,[13] Trevithick,[14] Holscher,[15] Nonne,[16] Meigs,[17] Good,[18] Voss,[19] Ehrendorfer[20] Richardson,[21] Hoffman,[22] Reinhold[23] and Phear[24]

Primary sinus thrombosis is regarded by some as especially a disease of childhood and old age, the two extremes of life when the animal organism is least prepared to stand the strain of debilitating influences The predisposing causes are variously given Von Monakow[25] gives as the causes long-continued diarrhea, especially in children, great loss of blood long-continued suppuration, carcinoma tuberculosis chlorosis and anemia

According to Oppenheim,[26] primary sinus thrombosis is, as a rule, a result of cardiac weakness, it is, therefore, called marasmic He also states that in children it is generally due to exhausting diarrhea, and in adults may develop in the terminal stage of exhausting diseases—tuberculosis or carcinoma, more rarely in the course of the acute infectious diseases He mentions Bollinger as having established the fact that chlorosis often produces a sinus thrombosis

Bouchut,[12] in his statistics of cases occurring in children, gives the following table of causes

Chronic enteritis	5 cases
Measles and catarrhal pneumonia	2 cases.
Chronic pneumonia	5 cases
Phthisis	8 cases
Anasarca without albuminuria	1 case.
Chronic albuminuria	3 cases
Pertussis and pneumonia	7 cases.
Gangrene of the mouth	1 case
Diphtheria	2 cases
Scrofulous cachexia, tuberculosis of bones lungs and intestines	1 case

Bouchut calls attention to the fact that 23 out of the

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[3] The New Sydenham Soc vol xi, p 81

[4] De la thrombose des sinus de la dure-mère Paris 1888

[5] Amer Jour of the Med Sci January and July, 1874

[6] St Bartholomew s Hosp Reports, 1874, p 35

[7] Schmidt's Jahrbuch, 1866 p 324

[8] Jour of Mental Science 1885, vol iii, p 371

[9] Boston Med 1883 p 174

[10] Grancher, unpublished cited by Lancial (l c)

[11] Cited by v Dusch

[12] Cited by Lancial

[13] British Medical Journal 1900 vol ii p 9

[14] British Medical Journal, 1897, p 1100

[15] Weiner klin Rundschau 1902, p 561

[16] Mittheilungen aus den Hamburg Staatskrankenanstalten

[17] Meigs Trans of the Coll of Phys of Phila 3d ser vol iii

[18] Neurologisches Centralblatt 1902 No 8 p 340

[19] Deut. Zeit fur Nervenheilkunde vol xv p 297

[20] Weiner Med Presse 1892

[21] Jour of Nervous and Mental Dis 1897, p 104

[22] Zeit für Ohrenheilkunde, vol xxx

[23] Cited by Voss

[24] Ibid

[25] Gehirnpathologie Nothnagel s Sys of Spec Path and Therap vol ix

[26] Lehrbuch der Nervenheilkunde, 3d edition p 763

35 cases he studied developed after pulmonary affections

Fourteen of the cases that we have collected from the literature, including our own, were in children The predisposing causes in these cases were pulmonary affections in 3 cases, long-continued suppuration in 2, and diarrhea, tubercular peritonitis and marasmus in one each In the other 6 cases there was no history of any predisposing cause, the cerebral symptoms being the first sign of ill health It is possible that in two of these six cases, namely, the case reported by Holcher[6] and in our first case, where the blood from the superior longitudinal sinus had formed a new passageway between the layers of the falx cerebri, which was not lined by endothelium, that the abnormal circulation predisposed to thrombosis

Murchison[27] is said to have been the first to call attention to the fact that sinus thrombosis is found at autopsy when death is due to syphilitic cachexia He reported 2 cases, both of acquired syphilis, one in a woman, 27 years old, who had extensive syphilitic deposits on the dura and whose sinuses were full of "dark red coagulum" In the other, a gummatous deposit was found on the inner surface of the dura, extending about the left lateral sinus, the lumen of which was obliterated Murchison himself does not attribute the thrombosis to syphilis *per se*, but mentions its presence only incidentally, as in both his cases there was extensive necrosis of the cranial bones and disease of the dura, it might be questioned whether these two cases could be considered as instances of primary sinus thrombosis

In our third case there were signs of cerebral syphilis, and this disease was probably the cause of the sinus thrombosis It seems as though *a priori*, syphilis, whether hereditary or acquired, would be a likely cause of sinus thrombosis, though neither v Monakow nor Oppenheim speaks of it

The degeneration of the pyramidal tracts in our third case is very uncommon in sinus thrombosis

Childbirth sometimes causes thrombosis of the sinuses, probably more often when there is copious hemorrhage, as in a case quoted by v Dusch In this case peritonitis also was present

Chlorosis or anemia has been the cause in several cases, the anemia lasting from one to six months and followed by the sudden onset of cerebral symptoms and death

In a case reported by Ogle, long-continued disease of the rectum was the only discoverable cause A short time before the patient's death the power of speech was lost, but no other symptoms were observed She died of asthenia, and at the autopsy thrombosis of the superior longitudinal and left lateral sinuses was found The inferior longitudinal sinus and the venæ Galeni were found partially obstructed

Ogle[28] also reports a case of sinus thrombosis following pneumonia in a young man aged 26 He suddenly became unconscious and hemiplegic At autopsy the superior longitudinal, left lateral and left petrosal sinuses were filled with a firm, reddish-brown and tightly adherent clot The cerebral veins were all engorged The brain substance was softened in places, and in the posterior and inferior part of the left middle lobe of the cerebral hemisphere was an abscess the size of a hazelnut

A case mentioned by v Dusch,[1] in a girl aged 12, who developed thrombosis of the superior longitudinal sinus during an attack of typhoid fever, probably belongs also to that class of cases where thrombosis of the cerebral sinuses occurs during the course, and usually near the termination of an acute infection In the second case described in our paper, a baby two days old, the clinical history pointed to a general infection, which was followed by the sinus thrombosis

In connection with those cases caused by anemia, a case reported by Nonne[10] is of interest A woman had a large uterine myoma Probably from the metrorrhagia caused by this, she became anemic A little later she suddenly developed cerebral symptoms, and died in four days The autopsy showed thrombosis of the superior longitudinal and lateral sinuses The cortex was hyperemic, but there was no degeneration of the brain substance

In a case reported by Wiglesworth,[8] dementia was present, and this condition, he thinks, may have caused the thrombosis, but the development of severe pulmonary symptoms before the appearance of the cerebral, and the presence of pulmonary lesions at the autopsy, make his conclusion doubtful In another case, reported by the same author, the patient became insane for six days, and then died suddenly At the autopsy a sinus thrombosis was found which, from its appearance, might have been several days old A recent hemorrhage into the ventricle was also found He thinks that in this case the acute insanity was a symptom of the thrombosis, and that death was due to the hemorrhage The patient had previously been in good health, and there was no known cause for the thrombosis

When it comes to a consideration of the immediate cause of the thrombus formation in the sinuses, we are on a very uncertain footing Various theories have been advanced, all of which lack definite proof Von Monakow[25] thinks that sinus thrombosis gives a well-defined symptom-complex, and yet he speaks of its resemblance to meningitis He makes two groups of sinus thrombosis—the marantic and that depending on inflammation of the cerebral veins or the pyemic form He says that the slowing of the circulation in the brain, such as may occur in those afflicted with carcinoma, in emaciated children, in the aged, etc, has been supposed to cause thrombosis, especially if the cardiac action is weak This view is at present far from proof

Baumgarten has shown that blood in a vein tied at each end so that all circulation is prevented, may not coagulate even after weeks, provided the occlusion has been made aseptically and the sinus wall is healthy The same blood, even after weeks, will coagulate if removed from the sinus, so that, as shown by Brucke blood remains fluid if it is in contact with a living healthy vessel wall, even if the vessel is tied

Von Monakow[25] says that there is no doubt that thrombosis of the cerebral sinuses and veins occurs after long-continued diarrhea in small children, after great loss of blood, in long-continued suppuration, in persons with carcinoma, tuberculosis, typhoid fever etc The coagulation, however, does not depend on the feebleness of the circulation, nor the supposed thickening of the blood but on changes in the walls of the vessels (loss of endothelial lining) Zahn has shown that the endothelium may be lost from chemical and thermic causes, that are active in marasmus He thinks, also, that the death of certain elements of the blood, white blood corpuscles, or the blood plaques may cause sinus thrombosis, as in chlorosis Virchow years ago, showed that in a large number of cases the coagulation of the blood precedes phlebitis, and that phlebitis followed by coagulation rarely occurs

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[27] Trans. Path Soc of Lond vol xiii p 250

[28] Trans Path Soc of Lond vol vi p 30 also vol x p. 31

Recent investigations in the coagulability of the blood by Leo Leob[29] gave some important results that bear on this subject This author found that the presence of certain bacteria or their toxins in blood plasma increased its coagulability in test-tubes, and also in the peritoneal cavity There was a difference in this activity according to the bacteria used, for instance, the staphylococcus pyogenes aureus was more active than the bacillus coli The absorption into the blood of tissue fluids increases the coagulability of the blood plasma A piece of muscle put into fresh-blood plasma increases its coagulability The same is true when a piece of blood vessel is placed in the plasma This action is, to a certain extent, specific, tissues from the same kind of animal as the one from which the plasma was obtained being more effective

It has not been proved that the endothelium exerts an inhibitory effect on the coagulation of the blood, but probably acts merely by preventing absorption of certain constituents from the tissues, and it also produces a smooth surface much in the same way as paraffin would only much better It seems most likely that in all these cases the coagulability of the blood is increased either by the presence of bacterial toxins or bacteria, or by tissue products

Virchow pointed out that the most commonly observed seats of sinus thrombosis are the cranial sinuses and the veins of the lower extremities and of the true pelvis, and that the reasons therefor are anatomic The fact that there are numerous fibrous bands crossing the cranial sinuses, that the sinuses are triangular in shape instead of circular, as are other blood vessels, thereby causing increased surface and so increasing resistance, that the tributary veins enter the superior longitudinal sinus at a right angle or sometimes even an obtuse angle to the course of the blood current, that in the cranium there is no muscular action to accelerate the current, and that the sinuses *in situ* are held open by their adhesions in spite of a diminished quantity of blood, are all factors that tend to produce a stasis in the blood current

In connection with the etiology, it is well to say that there are many cases reported which might have been regarded as primary, except for the complete history or postmortem examination, such as those caused by a furuncle on the face, the removal of a nasal polyp, an abscess of the antrum of Highmore, etc

In the primary form the superior longitudinal sinus is the most frequently affected This is in great contrast to those cases that are secondary to otitis media, in which the lateral sinus is chiefly affected Thrombosis, which is secondary to nasal or facial conditions, frequently occurs in the superior longitudinal sinus

In the primary form, the superior longitudinal sinus is not the only one affected The thrombosis may be very extensive, and involve all or nearly all the dural sinuses The superficial veins are generally congested and may be thrombosed, and the same is true of the veins of the choroid plexus In some of the cases extensive hemorrhage had occurred into the ventricles, and was the immediate cause of death, in other cases the ventricles were free, but cortical hemorrhages were found, in still other cases no hemorrhage was seen anywhere

Abscess or areas of softening, are rarely reported in primary thrombosis

In the third case of our paper the endothelium of the superior longitudinal sinus was destroyed

The appearance of the thrombus is very variable, according to its age It may be a dark red coagulum, or it may be completely organized so that the sinus resembles a fibrous cord

A CASE OF EARLY ACUTE PANCREATITIS WITHOUT HEMORRHAGE *

H H GERMAIN, M D

AND

H A CHRISTIAN, M D

BOSTON

Of the many cases of acute pancreatitis reported in the literature, most present quite advanced lesions The largest number are examples of hemorrhagic or of necrotizing pancreatitis with extensive destruction of the organ A few are cases of focal suppurative lesions The study of these cases has not thrown great light on the etiology and histogenesis of the lesions, but our present knowledge of the condition has been gained mainly from animal experimentation

In animals the pancreas has been treated in a great variety of ways Some of these, as injections of chromic acid, present conditions which manifestly play no part in the causation of the natural disease in man Others such as injections of digestive ferments (papain), bacteria, gastric juice or bile, imitate conditions that, to say the least, might occur in man Of these the entrance of bile seems to offer the most satisfactory explanation of many of the cases of acute pancreatitis, and it has been given first place in the etiology of the disease

Cases in man showing very early lesions are rare and yet from these alone can the correctness of the deductions made from animal experiments to the natural disease in man be proven This case is reported because it shows an early lesion and presents certain peculiarities not generally found in other cases Furthermore, there is no evidence of bile having entered the organ, and the inflammatory lesions are unassociated with hemorrhage

The clinical narration of the case is as follows

History—Katherine L, age 29, married, was admitted to the surgical side of the Boston City Hospital on the service of Dr Gavin,[1] with a provisional diagnosis of appendicitis Family history negative Past history shows no severe illness or accident Last catamenia four months ago Constipated for past few weeks

Present Illness—Three days before entrance gradual onset of moderately severe pain in left lower abdomen, becoming general in a few hours Pain extreme and most severe in epigastrium Patient vomited several times daily Vomitus consisted of food ingested and was at times bile stained Chill two days previous lasting about half an hour Last movement of bowels four days previous No change in urine noted

Examination—Well developed, obese Temperature 101 2 degrees, pulse 110 of poor volume and tension Tongue dry with thick brownish coat Skin pale, with a slight yellowish hue Decided pallor of mucous membranes Heart sounds faint, no murmurs audible Lungs negative Abdomen not distended Slight general tenderness, which is marked in epigastric and right hypochondriac regions No mass to be felt General normal tympany No dullness in flanks or evidence of free fluid No edema Moderate muscular spasm above umbilicus Liver dullness from fifth rib to two inches below costal margin Edge of liver is smooth and not tender Spleen not palpable. Vaginal examination shows normal vagina with a lacerated cervix and a somewhat enlarged uterus Urine A slight trace of albumin, no sugar, sediment not examined Blood not examined

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[29] Personal communication

* Read at the Fifty-fifth Annual Session of the American Medical Association in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs V C Vaughan, Frank B Wynn and Joseph McFarland

[1] We are indebted to Dr Gavin for the privilege of using the clinical history of this case

Treatment and Course—Patient was given a high enema with fair result and strychnia, gr 1/[illegible], every few hours She seemed considerably relieved by the enema and was comfortable until 9 30 p m, when she became thirsty, restless and with a rapid and irregular pulse At this time she vomited and symptoms of collapse became more extreme Active stimulation failed to give any reaction and death occurred about 3 30 a m

Diagnosis—As the patient was under observation only ten hours there was little time for careful study and no definite clinical diagnosis was made Gallstones, gastric ulcer, pancreatitis and appendicitis, with abscess of the liver were considered in the differential diagnosis Absence of liver tenderness, together with regular contour though not excluding liver abscess, made the possibility less likely It was impossible to exclude the other three conditions, but the rapid onset of collapse without any evidence of hemorrhage made the diagnosis of acute pancreatitis more probable than anything else

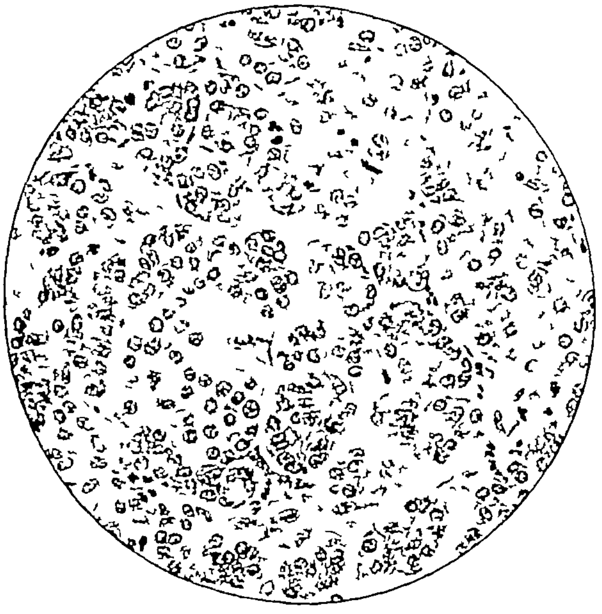

Figure 1

Autopsy—The examination was made twenty three hours after death The body was of a well developed, well nourished woman, 153 cm long, abdominal panniculus 5 cm thick

Peritoneal Cavity Omentum was long, completely veiling viscera and contained much fat, as did the mesentery No fat necroses were found No fluid was present in cavity Mesenteric lymph nodes not enlarged Appendix normal 11 cm long, below cecum directed toward mid line, slightly curved It had a mesentery for entire length which except at distal end was very short Lesser peritoneal cavity normal Pelvis normal

Pleural Cavities Right lung slightly bound to parietes laterally and posteriorly by fibrous adhesions Left normal Pericardial cavity was normal

Heart Weight, 285 gms Just beneath the epicardium over base of heart are numerous ecchymoses 1 to 3 mm in diameter, and of slightly irregular contour Heart otherwise normal Frozen section showed no fat droplets in fibers when treated with glacial acetic acid

Lungs Right shows few fibrous tags At base of both few small ecchymoses beneath pleura Lungs otherwise normal Bronchi and peribronchial lymph nodes normal

Spleen Weight 75 gms Surface slightly wrinkled and showed numerous small irregular slightly elevated whitish patches Except for this normal

Gastrointestinal Tract In tissues about lower end of esophagus there had been a slight hemorrhage The gastric mucosa was in many places hyperemic and there were many minute submucous ecchymoses Duodenum more hyperemic and along tops of mucous folds dark red Other parts of tract pale and contracted

Pancreas appeared normal, though numerous parallel cuts were made through it

Liver Weight, 1,690 gms Smooth On section, grayish red, with scattered small paler areas Markings indistinct Consistence normal Gall bladder distended with dark bile, no stones Ducts normal

Kidneys Weight, 310 gms Capsule strips readily without tearing kidney substance On section, cortex pale, grayish, with glomeruli visible as red points Pyramids dark red with indistinct markings Cortex, 9 mm thick Frozen section shows very great numbers of small fat droplets in tubular epithelium when treated with glacial acetic acid or stained with Sudan III or Scharlach R Adrenals normal Bladder normal

Uterus was enlarged, fundus reaching about to level of pelvic brim Softer than normal Uterine veins distended with blood Tubes and ovaries normal Uterus contained a fetus

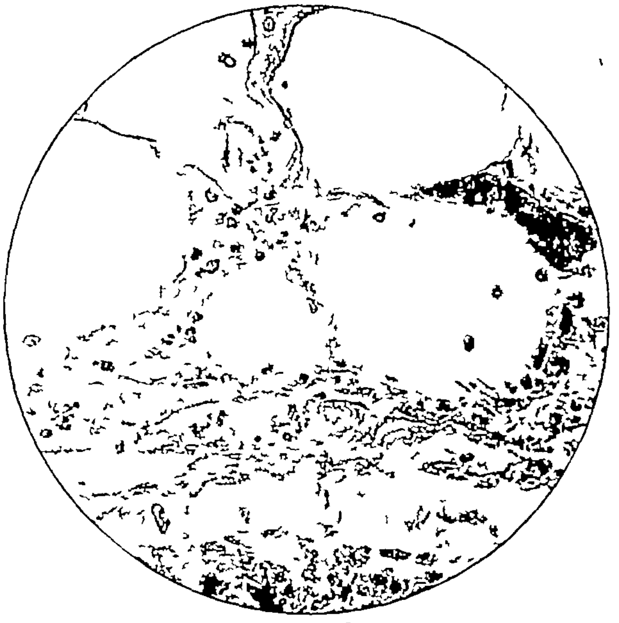

Figure 2

lying in a sac 4 cm in diameter Surface of sac covered with innumerable short villi, giving it a velvety appearance

The fetus was about 1 cm long Uterine mucosa thickened, red and softer than normal Over an area about 3 cm in diameter the mucosa is thicker than elsewhere, placental site Vagina normal Cervix slightly patulous Aorta of small caliber, normal The organs of neck, tongue, uvula, tonsils and brain were normal

Cultures—Heart's blood and lung, sterile

Liver, spleen and kidney, bacillus of colon group

Microscopic Examination.—Liver The liver cells in the central half or two thirds of each lobule contained many large vacuoles Their cytoplasm took a deeper eosin stain than that of the cells of the periphery of the lobule It was granular and many cells showed varying degrees of disintegration Most nuclei of liver cells stained very faintly In the capillaries between these cells, in the cells themselves and their remnants were many polymorphonuclear leucocytes with deeply staining nuclei Spleen negative

Kidney There was an occasional atrophied glomerulus and a few hyaline casts In tubular epithelium there were numerous vacuoles grouped generally in the basal portion of cell

Sections of liver spleen and kidney stained by the Gram Weigert method and with eosin and methylene blue showed no bacteria

Uterus showed normal decidua, no other change Fallopian tube normal

Pancreas shows two forms of lesion, one diffuse, the other focal The diffuse lesion consisted of the presence of polymorphonuclear leucocytes scattered between the acini of the pancreas These lay in the small mount of interacinar connective tissue and only very rarely penetrated between the epithelial cells of an acinus (Fig 1) The leucocytes varied in number in different sections, but only rarely were they found in large numbers in any given field On the other hand, in only one section of a considerable number examined were they absent In places they were scattered similarly in the interlobular connective tissue and between the fat cells (Fig 2).

The focal lesion consisted of not very numerous scattered areas of necrosis and of cellular infiltration The necrotic areas were generally quite small and as a rule involved the pancreatic parenchyma In addition a few definite fat necroses involving small groups of fat cells were found Into some of the larger areas of necrotic pancreas many polymorphonuclear leucocytes had wandered and their tissue disintegration was quite marked These leucocytes stained poorly In certain parts of the interlobular connective tissue polymorphonuclear leucocytes were present, in other parts, cells considerably larger than a polymorphonuclear leucocyte were found These cells had a round or oval vesicular nucleus and a considerable amount of vacuolated cytoplasm Both forms of cell infiltrated the interstitial tissue in scattered foci In some places in the interstitial tissue there was a moderate amount of fibrin Here and there a few red blood corpuscles appeared, but none of the lesions in the pancreas were hemorrhagic in character Some sections show the capsule of the pancreas In it are numerous polymorphonuclear leucocytes which frequently appear to be in lymph channels From the capsule the leucocytic infiltration extended in places along interlobular septa into the pancreas (Fig 3)

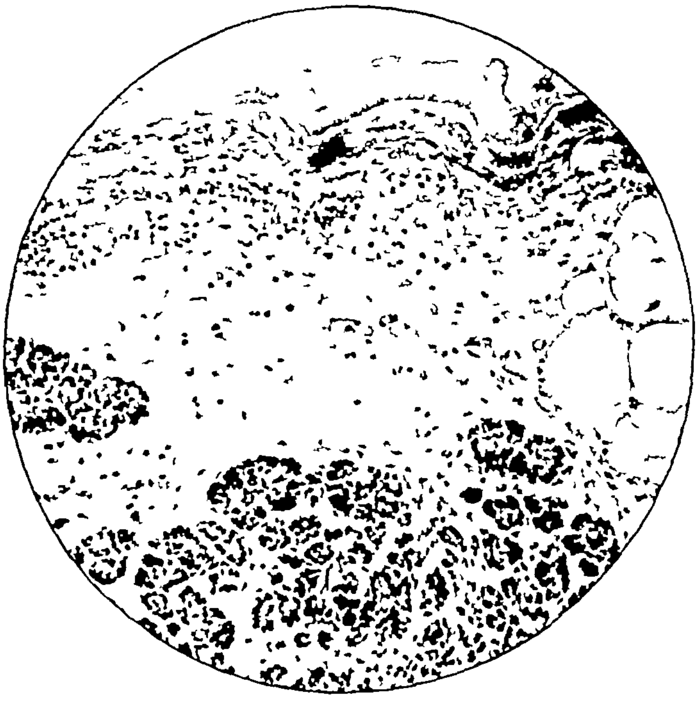
Figure 3

In general the pancreas stained less well than the other organs The acinar epithelium, except in the necrotic areas, however, showed no lesion The islands of Langerhans were normal in appearance The larger ducts frequently showed desquamation of their epithelium and in the lumen of the smaller ducts and acini a hyaline material was generally found The interstitial tissue is not increased in amount The blood vessels show as lesions

Sections stained for bacteria by the Gram Weigert method showed groups of organisms consisting of cocci, often in short chains and a less number of fairly large bacilli These were sometimes found where there was leucocytic infiltration of interlobular connective tissue Some were present in the capsule Bacteria also occurred where there was no discoverable lesion of the tissue and some veins contained considerable numbers Bacteria were not present in the larger lesions with definite necrosis or marked leucocytic infiltration, and they were not found scattered in the parenchyma of the pancreas Of the bacteria present the greater number tinctorially and morphologically resembled streptococci

Anatomic Diagnoses—Early acute pancreatitis and peripancreatitis Central necroses of the liver with leucocytic infiltration Marked fatty degeneration of kidneys Subpleural ecchymoses Subpericardial ecchymoses Submucous ecchymoses and congestion of stomach and duodenum Slight periesophageal hemorrhage Chronic fibrous pleuritis, right side Chronic perisplenitis Pregnant uterus

REMARKS

This case is one of acute pancreatitis of less than four days' duration from the onset of the first symptoms The clinical history is a fairly characteristic one Abdominal pain and tenderness most evident in the epigastric region occurs in a fat woman This is accompanied by constipation, vomiting, fever, and finally marked collapse Autopsy shows but slight macroscopic lesions There are scattered ecchymoses in the pleura and pericardium, and congestion of the stomach and duodenum There is a marked fatty change in the kidney and extensive central necrosis of the liver All of the findings point to an intense intoxication

The source of this intoxication seems to be in the pancreatic lesions already described Their etiology is not clear There is no indication of any entrance of bile into the organ There is a duodenitis Assuming this to be the primary lesion, extension may have taken place to the pancreas either by way of the pancreatic ducts or by direct extension possible in the close connection existing between the duodenum and head of the pancreas The pancreatic ducts show no lesion other than desquamation, and this may be simply a postmortem change There is evidence of an inflammatory process extending along the interlobular connective tissue and the capsule of the organ, eventually between the acini themselves Associated with these lesions are bacteria, especially streptococci The method of the extension of the process bears a resemblance to the conditions found in erysipelas and has suggested the name erysipelatoid for this type of pancreatic lesion However, the relation of the bacteria to the lesions is not always evident, and postmortem multiplication, possibly postmortem invasion may have taken place So this can not be said to be a clear case of pancreatitis of bacterial etiology

The interest of the case lies in its short duration, the extent and character of the inflammatory lesion the slight degree of necrosis of the pancreas and fat tissue and the absence of hemorrhagic lesion Such a case strengthens the belief in the inflammatory nature of acute hemorrhagic pancreatitis Seitz [2] discussing the point as to whether severe pancreatic hemorrhages are inflammatory in origin, asks the question "Warum sind keine Falle vorhanden, bei dened es nicht zur Blutung gekommen ist, wo also eine reine Entzundung so plotzlich todte?" Oser[3] was able to find only two cases those of Cavley and Kennan, with which to answer this question However, neither of these cases is convincing as microscopic examinations were not made Our case serves to answer the question asked by Seitz and shows the possibility of an inflammatory lesion of the pancreas without hemorrhage but clinically presenting the picture of acute hemorrhagic pancreatitis

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[2] Blutung Entzündung und brandiges Absterben der Bauchspeicheldrüse Zeitch f klin Med xx 1892 214

[3] Nothnagel s Spec Path u Therap xviii

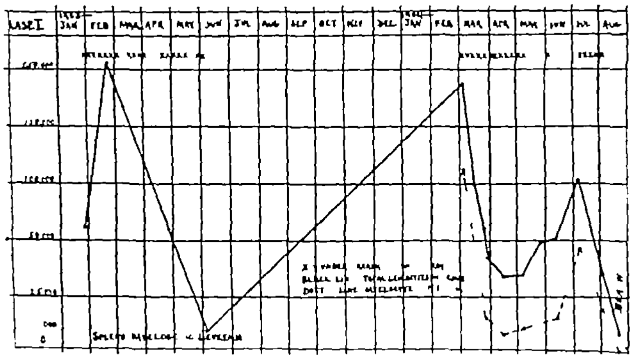
X-RAY THERAPY IN LEUKEMIA

A PRELIMINARY REPORT WITH SPECIAL REFERENCE TO LYMPHATIC LEUKEMIA

JOSEPH A CAPPS, M D
AND
JOSEPH F SMITH, M D
CHICAGO

The first recorded utilization of the x-ray for the treatment of leukemia was by Pusey,[1] who observed no effect whatever in a case of the splenomyelogenic type, but in one of the lymphatic type he noticed a marked diminution in the size of the glands More recently a fresh interest in the subject has been aroused by the favorable reports of Senn,[2] Brown[3] and others [4]

In all we have seen reports of 11 cases of well-verified leukemia treated in this way All but one of these belonged to the splenomyelogenic type In every instance the splenic tumor decreased in size in 3 cases becoming barely palpable The leucocytes in all cases excepting Pusey's diminished in number Four reporters record a white count under 10,000, with entire disappearance of the myelocytes An improvement in the hemoglobin and red corpuscles always took place, but was frequently followed by a decline Death occurred in 3 cases, one will soon result fatally The others were all much improved at the time of their publication It should be emphasized, however, that none had been observed under treatment for more than eight months



Through the courtesy of Dr Senn we are enabled to report the further course and termination of his published case of splenomyelogenic leukemia and one other hitherto unpublished We are also indebted to Drs Bevan and Herrick for the privilege of using patients in their service at the Presbyterian Hospital In the accompanying table are condensed the salient features of eight cases that have come under our observation The typical blood changes are graphically illustrated by two charts, one of splenomyelogenic, the other of lymphatic leukemia

Case 1 shows the inhibiting influence of the x-ray on the leucocytes and the constant tendency for the leucocytes to multiply when the treatment is discontinued The count toward the last fell to the normal but the myelocytes never entirely disappeared

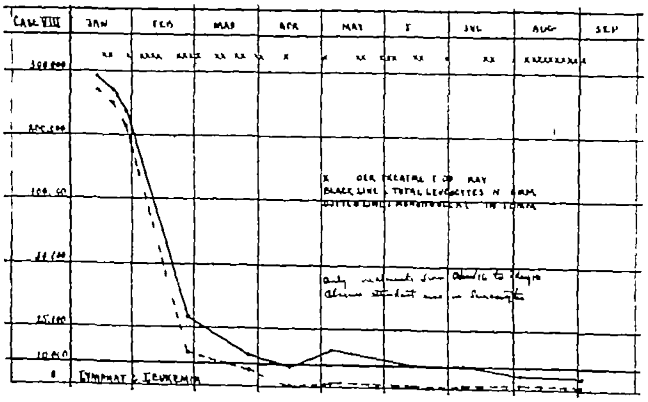
LYMPHATIC LEUKEMIA

The only well-reported case observed during treatment is the one by Pusey above referred to The glands and spleen in his patient twice went down to nearly normal size under the treatment, but recurrence and finally death took place He found no marked fall in the leucocytes

In our series of 6 lymphatic cases, death resulted in 4, and it will be noticed that 3 of these ran an acute or subacute course, the fourth showed a great shrinkage of the gland tumors and an improvement in the blood before death took place The remaining 2 cases exhibit a steady continuous improvement in the blood, glands and spleen The blood chart of Case 6 is typical of both, not only does the leucocyte count become normal, but the differential count gives no hint of the blood disease The spleen and glands in both patients remain somewhat enlarged

SOME GENERAL DEDUCTIONS

1 The action of the x-ray in leukemia seems to be of two kinds (a) A local influence on the spleen and glands, characterized by an inflammatory reaction and later by a breaking down and disintegration of the gland tissue (b) The formation of toxins which have an inhibitory action on the manufacture of leucocytes by the bone marrow It is well known that acute infections occurring in leukemia, such as pneumonia, septicemia or terminal infections, tend to inhibit the production of white corpuscles and often cause a reduction in the size of the spleen or gland tumors The x-ray toxins may be compared to those produced by such infections



2 In no recorded instance of either lymphatic or splenomyelogenic leukemia has the spleen tumor entirely disappeared

3 With the discontinuance of the x-ray, the disease, after varying periods tends to reassert itself

4 Death may take place when the glands and spleen are smallest, and when the white count is normal

5 Acute cases seem to receive no benefit from the x-ray

6 The chronic form of lymphatic leukemia responds to the x-ray even more promptly than the splenomyelogenic type In every instance the glands rapidly softened and dwindled to small proportions

7 The x-ray holds the disease process in abeyance but probably is not curative Yet it is too soon to say that persistent treatment of an early case may not give permanent relief

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[1] Pusey THE JOURNAL A M A April 12 1902 and Text book on Roentgen Rays in Therapeutics and Diagnosis 1903

[2] Senn N Y Med Jour April 12 1903

[3] Brown THE JOURNAL A M A March 26 1904

[4] Other references are Bryant and Crane N Y Med Record April 9 1904 Weber Am Medicine May 21 1904 Cullioy and Spillman Sem Médicale June 1 1904 Grosh and Stone THE JOURNAL A M A July 2 1904 Ahrens Münch med. Woch July 1904 No 24 Dunn Am Pract and News July 15 1904 Chester Chicago Med. Recorder August 1904

Special Article.

TRAVEL NOTES—X.*

A WINTER SEMESTER

LEWELLYS F. BARKER, M.D.

CHICAGO

(*Concluded from page 813.*)

MUNICH, July 21, 1904

The unusual attractiveness of Munich as a place of residence is, perhaps, not an unmixed advantage to the medical school, for though it insures a large attendance and affords unusual opportunities to the students for self development in general culture, for the enjoyment of art, music and the theater, it brings to the University of Munich more than its share of the lazy, loitering students who care more for the *Bummelleben*, for which the interesting old city gives such ample opportunity, than for the training of their hands or the perfecting of their minds In the spring and autumn the adjacent mountains seduce to frequent excursions In the winter the *Bal paré*, the *Redoute* and the delights of carnival lead to the squandering of all too many hours that should be devoted to study At all times the restaurant life and café life is there with its peculiar inducements to the sacrifice of time

Two especial attractions appealed not only to the students of Munich during the past winter, but to all residents and visitors Both were novel forms of the dance—one the artistic, music interpreting dance of the American, Miss Isadora Duncan, the other the so called sleep dance or dream dance of the hypnotized, hysterical Mme Madeleine[1] of Paris The latter was the more pathologic in its interest For a time it seemed as if all Munich from the uppermost to the lowest class had been hypnotized by her, everyone you met spoke of her, asked if you had seen her, and wanted to know if she were really hypnotized or if it were all a swindle She was "discovered" in Paris by a "magnetisator," a quack whom she had consulted regarding headaches The "magnetisator" hypnotized her, and by chance he says, while she was in the hypnotic state, played a selection from Chopin To his surprise, so the story goes the patient began to react in the most marvelously plastic way to the musical sounds The artistic attitudes assumed were so remarkable that she was presented in several art studios in Paris and London, the cataleptic attitudes called forth by various suggestions could be maintained long enough for photographic reproduction, and a large series of pictures of her, illustrating "all phases of human emotion unencumbered by any inhibitory influence" are on sale and used as models by artists The "magnetopath" being a practical business man, decided to exploit her He could have chosen no better place than Munich in which to begin operations That city, probably, has the most mobile nervous system in Europe the phenomenal success of "the Duncan" there as compared with her relatively cool reception in hard headed Berlin had sufficiently demonstrated that But how to effect an entrance was the difficulty Hypnotic exhibitions in public are prohibited by law in Germany The public had to be smuggled in in some way under the protection of science The gulf between the "magnetisator" and the medical profession was finally bridged through the intermediation of the Munich Psychological Society and of von Schrenck Notzing a nerve specialist whose offer to present "the Madeleine" as a clinical case to the *Aerztliche Verein* was accepted Some 400 physicians met in the amphitheater of the Medical Clinical Institute The clinical history was read by v Schrenck Notzing The woman, 30 years old, had been a nervous child though actual hysterical attacks had never been noted Examination revealed a moderate degree of anemia, left sided hyperalgesia, hysterical visual fields, and in general the psychic stigmata of the hysterical nature The Parisian impresario was then called in and he, with much Svengali like nonsense—one could feel the medical men in the audience shiver—put the patient to sleep Loewenfeld, von Schrenck Nötzing and other experienced hypnotists examined her and declared that there was no doubt as to the hypnotic condition Professor Thiele, at the piano, tested the reactions of the woman to intensity of tones, velocity of tone sequence, rhythm, height of tone scale, intervals, legato, staccato, consonance, dissonance and the like The reactions were lightning like and consistent the movements of the body produced were undoubtedly marvelous, the contrast between the reaction to waltz music and a funeral march were extreme Under the verbal suggestion of the magnetopath, further, she reacted immediately in correspondence to the most diverse human feelings and emotions

After "waking her" with voice and various absurd movements, the "magnetisator" and his charge withdrew and the discussion was opened Though the chairman of the meeting urged that the discussion should not be made public, this was in the state of tension which existed in Munich at the time too much to hope for The opinions expressed at the meeting soon became public property and a résumé of the proceedings was even written by a physician for the feuilleton of the *Frankfurter Zeitung* The most diverse opinions were expressed, and they were not limited to the character of the case presented, but involved, as might have been expected, the medical ethics of the whole situation Loewenfeld's opinion seemed to be listened to with the greatest respect Though some of the physicians had thought the hypnotism simulated and the whole performance a swindle, Loewenfeld felt sure that the hypnotism was genuine, but gave it as his opinion that the hysterical element rather than the hypnosis was responsible for the artistic attitudes, the hypnosis, perhaps being helpful, since in the hypnotic condition all inhibitory influences are removed, and capacities, which, possessed in the waking condition, but then improperly unfolded owing to shyness embarrassment and distraction, can first be fully exhibited The woman, it was asserted, had no especial training in art and music but that she, through inheritance, must be very susceptible to music is obvious, a fact which may be accounted for some thought, through the history that her mother had been a dancer in Tiflis That no physician has hypnotized Mme Madeleine is a feature of the situation to which attention was more than once called

From all I could see, and trying to weigh as critically as I could the conflicting comments made, I came away from the meeting feeling that Mme Madeleine's performance was qualitatively a mixture of hypnosis, hysteria and hocus pocus, but as to the quantitative relations of the three ingredients I shall venture no guess

The fact that public exhibitions of hypnotism are illegal, of course, made the great public most anxious to see Mme Madeleine The reports of the presentations at the Psychological Society and at the Medical Society whetted the appetite further The way in which the law was evaded was interesting People who desired to see the woman registered their names at one of the Munich bookstores Invitations to attend a "private performance" in the Schauspielhaus were then sent out by the Psychological Society, acceptances were to be accompanied by a subscription of 10 or 20 marks, according to the position of the seats These difficulties helped, as I have said to hypnotize the public The house was sold out, and audiences of musicians, artists actors and the wholesale public viewed the "dream dance" unmolested How great the harm done to the people at large has been it is difficult to calculate Rumor has it that the offices of the hypnotists are being more than ever visited by women and girls who demand that they be hypnotized in order that their slumbering or inhibited talents may be revealed

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*The previous articles in this series have been as follows "Travel as a Means of Post Graduate Medical Education" by Dr Nicholas Senn July 23 "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr Lewellys F Barker July 30 "Spain and Ramon y Cajal" by Dr Barker, Aug 6 "Leprosy in the Hawaiian Islands" by Dr Senn Aug 13 "Italy and the Great Antimalarial Campaign" by Dr Barker Aug 20 and 27 "Father Damien the Leper Hero" by Dr Senn Aug 27 "A Winter Semester" by Dr Barker Sept 3 and 17 "Medical Conditions in the Hawaiian Islands" by Dr Senn Sept 10

[1] THE JOURNAL May 14 1904 page 1327 gave an abstract of an article on this dancer by a prominent scientist —ED

New Instrument.

SALINE INFUSION AND IRRIGATING FLASK

JOHN J. SHEA, M.D.

BEVERLY, MASS.

This apparatus relates to an improvement in saline infusion and irrigating flasks. As illustration shows, it consists of a chemical glass reservoir, suitably marked in cubic centimeters up to one liter. It is provided at its base with a nipple shaped outlet, to which rubber tube and needle are attached. This glass reservoir is held in place by upper and lower metal rings between which and flask is interposed rubber packing to prevent flask from cracking. These rings are detachably connected, by means of metal rods going through perforated ears in the rings. The upper end of each rod is provided with an eye, to which is connected a handle. The lower end of each rod is threaded and is secured by means of adjustable nuts. These rods pass loosely through perforated ears in upper and lower rings, so as to allow new flask to be substituted if one is broken. On lower rings are three legs serving as support. Thus it can be seen that flask can be either hung up or set down without interfering with the flow of the liquid.

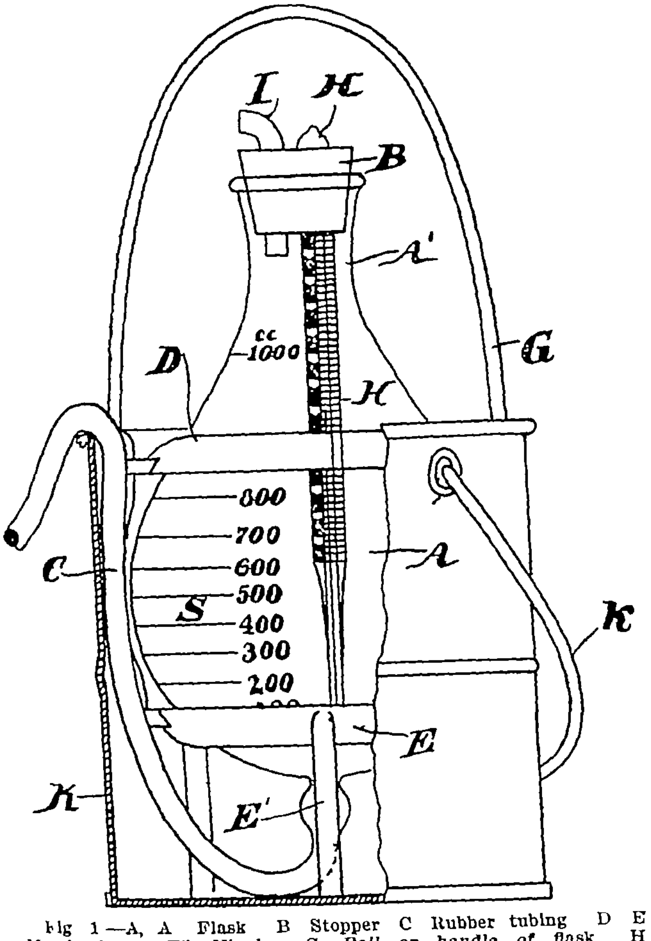

Fig. 1.—A, A. Flask. B. Stopper. C. Rubber tubing. D. E. Metal rings. E'. Nipple. G. Bail or handle of flask. H. Thermometer. I. Inlet for air. K. Coppered tin with handle.

The stopper is made of rubber, containing two perforations, one containing a thermometer for registering temperature of solution and the other a small glass tube, to allow air to enter to compensate the displaced liquid.

I have also provided a coppered tin receptacle, also having a handle, to serve as a vessel in which to boil the solution for purpose of sterilizing it, or for reheating the solution when in bottle. This flask fits with rubber tubing into the coppered tin receptacle and the whole is placed in a box with handle.

In upper part of this box is a compartment in which to carry sterile needle and a concentrated sterile salt solution, an ounce of which added to 1,000 c.c. of water makes a normal salt solution. This solution can be prepared and kept in the flask for emergencies, showing its helpfulness in ambulance calls, railway accidents, etc., beside its convenience to the physician and the hospital.

Clinical Report.

REPORT OF A SYMPTOMATIC CURE OF CONVULSIVE TIC DOULOUREUX BY INJECTION OF OSMIC ACID

JOSEPH RILUS EASTMAN, M.D.

INDIANAPOLIS

History.—Mrs. H., aged 71 years, came to me on July 5, 1904. The case was one of typical intense tic douloureux involving the right side of the face. The first paroxysm occurred about twenty years ago, subsequent attacks gradually becoming more frequent and more severe. Practically all of the many remedies recommended for the relief of this condition had been tried without benefit. All the teeth had been extracted in the belief that perhaps dental caries bore some causative relation to the pain. For almost three months prior to the operation the pain had been excruciating, the attacks occurring with exhausting frequency. The whole right side of the face was exquisitely tender, particularly in the neighborhood of the infraorbital and mental foramina. The tongue was sore and tender at all times, this greatly interfering with speech. During attacks the pain was most acute about the right angle of the mouth and the angle of the right jaw. Violent spasm of the buccinator was almost constantly present during the attacks.

Treatment.—A 2 per cent. solution of osmic acid was injected into the supraorbital, infraorbital and inferior dental nerves at the supraorbital notch and infraorbital and mental foramina. The manner of operating was precisely that practiced by Dr. John B. Murphy and described by him at the Atlantic City meeting of this year. Ten drops of a 2 per cent. solution of the osmic acid were injected into each branch, and two or three drops were forced into the perineural fat of each foramen around the nerve. At the time of the injection of the osmic acid the nerves were drawn with very slight force from the foramina and held during the injection, but the trunks were not stretched as in the operation of neurectasy.

Result.—Up to the present time there has been no return of the pain since its abatement one week after the operation. During the first week several rather severe paroxysms occurred, these gradually decreasing in severity. It is possible that the pain in this case may return, but even if it should, the respite for a few months justifies an operation so easy of performance and attended with so little danger.

An interesting feature of the case was the severe nephritis occasioned by the elimination of the acid. The urine passed during the first twelve hours succeeding the operation showed nothing unusual, however, on the second day nephritis resulted. There were no symptoms either subjective or objective pointing to its onset or presence excepting the appearance of and findings in the urine. The patient did not complain of pain in the loins. Urine passed thirty six hours after the operation showed the following:

Reaction, very slightly acid; sp. g., 1036; color, dark claret. The specimen was centrifuged, and the sediment composed a little over a quarter of the volume. The clear fluid above the sediment was light claret in color, the sediment being dark red. Examination of the fluid portion showed a small amount of albumin, with no sugar, bile or other abnormal substance present. Examination of the sediment showed it to be composed almost entirely of red blood cells. There were no casts, epithelial cells or pus cells. The red blood cells disappeared from the urine on the fourth day.

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PROGERIA, A FORM OF SENILISM

Among the still obscure physiologic problems must be reckoned those relating to the mechanism regulating growth and decay. While we are in possession of isolated scraps of knowledge which shed an occasional glimmer of light on the subject, our knowledge can only be described as fragmentary. The studies of the last few years on acromegaly and giantism indicate that the pituitary body has some influence on development though just what this influence is remains obscure. In some cases of dwarfism, too, this gland has been found diseased. In some forms of dwarfism again the thyroid seems to play a part, as is the case in cretinism and allied conditions. Then, again, certain glands seem to bear a relation to certain systems rather than to the body as a whole, an example of this being the curious relation which exists between excessive or premature development of the genitalia and some of the diseases of the adrenal glands. The question as to the factors which delay or accelerate decay, though less frequently studied, is equally as important as that relating to growth. Why is it that in individuals of the same age some are so much older and some so much younger, so far as their tissues and intellect are concerned, than the average individual of that age? Why is it that in the same individual one organ, or group of organs, may be older or younger than the rest of the body structures? To use the term originated by Sir James Paget, what is it that regulates the "chronometry of life"?

In a recent article, Hastings Guilford[1] has reported, under the name of progeria, some extremely interesting cases in which there existed a combination of premature senility and infantilism, but in which the former condition greatly predominated. In all the cases the predominating syndrome of premature decay was far beyond the limits of possible normal variation, and was unassociated with any previous disease which might have acted as a causative factor. Without considering the cases in detail, it will be of interest to briefly sketch salient points in the natural history of the two most characteristic cases, these being so similar that one description will suffice. The disease begins in early infancy with loss of hair so marked that at six months more than half the hair may have disappeared. At the same time the child begins to emaciate. The shoulders are rounded and the chest narrow on account of the lack of development of the clavicles. The head is relatively large, and may resemble the head of hydrocephalus. As the child grows the hair becomes more scanty and turns gray so that as early as the age of seven only a very scanty gray crop may remain. The growth is stunted and the child takes on all the appearances of the decrepitude of age. The skin becomes loose and shriveled, the arteries show senile changes, and the whole appearance and even the mental attitude is that of the adult rather than that of the child. The children are easily fatigued, partly on account of muscular weakness, partly on account of shortness of breath, the latter symptom being of cardiac origin. Physical examination shows a curious mixture of the physical signs of senility and those of lack of development. The skin, the hair, the vascular system, and the ends of the long bones are those of an old individual, and, on the other hand, the shafts of the long bones, the bones of the skull, the teeth, and the mammary glands show marked lack of development. The liver, the blood-forming organs and the genitalia seem to develop in a normal manner. The functions of the body seem to be carried on in a fairly satisfactory manner. The bowels are regular, the appetite is good, and most foods are normally digested, though curiously enough in both well-marked cases the patient was unable to digest fats. Death took place in both cases at the age of seventeen, in one case in an attack of angina pectoris, in the other from cardiac failure.

In the one case in which Guilford was able to procure an autopsy, the same curious mingling of senile and infantile changes was found. There was marked sclerosis of the arterial system, the coronaries and aortic and mitral valves being especially affected. The kidneys and adrenals showed a fibrosis of a typical senile type. On the other hand he noted a persistent thymus, a great lack of development of the clavicles and an undeveloped state of the shafts of the long bones. The liver and thyroid gland were normal, and no definite changes could be made out in the brain or in the pineal or pituitary glands.

In his discussion of the pathogenesis of the disease, the author sums up the condition as being one of "retarded development, combined with premature old age and with indications of some attempt to attain a normal condition." He is unable to explain the causative factors in the disease. There was no evidence that it was due to previous disease of some particular organ, the thyroid, pituitary and brain being normal, and the author evidently does not think the adrenal changes of importance enough to lead to serious results. He compares the cases to the form of infantilism known as ateliosis, and thinks that possibly these may be cases of ateliosis combined with premature senile decay. He neglects to state the condition of the pancreas in the case examined postmortem, and apparently regards this of no moment. In the light of the cases of pancreatic infantilism, recently reported by Bramwell and others, it would have been of interest to have known the condition of this organ in his cases, particularly as in both of them there was a marked aversion to fatty food, and in one there were also periodic attacks of abdominal pain

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[1] The Practitioner August 1904 and also report of Brit Med Assn The Journal Sept 3 1904, p 691

AID WANTED FOR CONVALESCENT INSANE

It is well known that the average patient discharged from the hospital for the insane, as recovered or improved, is in a most helpless and pitiable situation if he has no friends to look after him, and there are many such In his efforts to obtain employment he is more heavily handicapped than is the discharged prisoner At the very moment, therefore, when he should be protected, well nourished and cheerfully employed, he is plunged into difficulties and discouragements, and frequently is reduced to abject want It is not strange that he too often again succumbs to his malady, neither is it to be wondered at that, in view of this well-recognized danger, convalescent patients are sometimes retained in the asylums by humane superintendents too long for the good of the asylums and too long for their own good, could they be sent out into the world under even a temporary guarantee of safe and wholesome living conditions In this country there are many societies for the aid and encouragement of discharged convicts but none, so far as we are aware, which provides assistance for the recovered patient discharged from a hospital for the insane The general charitable societies, of course, do much to relieve the families who are reduced to helplessness by the insanity of their breadwinners, and in some cases patients are assisted in obtaining work on their return All this, however, quite fails to meet the situation

Special organizations are necessary, which should, in fact, perform the function of lay auxiliaries to the asylums Such societies should have a temporary home, where a patient without family or friends could go immediately on leaving the asylum, so that he would find himself at once in an atmosphere of friendly encouragement He should be aided to find work, and to regain the habit of independence which is too often permanently lost in the asylum If the patient had been an alcoholic, great pains might be necessary to prevent a return to his former associations and a relapse into his former indulgence The functions of such a society, however, must go still further It should concern itself with such matters as the humane care of patients during the period when they are in custody awaiting inquiry as to their mental state, it should combat the popular ignorance and dread of the asylum, and above all, should aid in popularizing the knowledge that acute and transitory cases should have immediate care under surroundings so closely approximating those of the general hospital that the old asylum stigma would be lost Such societies should have the right of entry to public institutions, as have the valuable State Charities Aid Societies of New York and New Jersey They would undoubtedly succeed in greatly improving the condition of the insane under county care in the various states

The creation of societies for the aid of discharged patients would have many foreign precedents In Germany, for instance, there are fifteen volunteer societies organized for the aid of the insane, the first of which was begun in 1842 In general terms, their purpose is "To give moral and material assistance to indigent, discharged patients in order to facilitate their return into society and to prevent a recurrence of their malady" "To improve the public care of the insane, and to combat the popular prejudice against the insane and against asylums" In the organization of these German societies the initiative has been taken by medical men, and usually by the physicians in charge of the regional asylums Physicians are members, and aid in directing the work, though the majority of the members are, of course, non-professional Persons can become members on annual payment of a small fee, or by lending their personal aid in caring for individual cases The reports show that considerable sums of money are disbursed, and indicate that the societies have large memberships and perform a most useful work

There are similar societies in other continental countries In Paris there are at least two *Societes de Patronage des Alienes* There is no doubt that such organizations would prove even more useful in America than abroad, and, if once started under wise auspices, there can be no question of their successful appeal to public sympathy

NATURAL AND ARTIFICIAL ANTHRAX IMMUNITY

The study of immunity and susceptibility to disease by test-tube experiments, has brought to light a number of seemingly paradoxical results It has been shown for instance, that human blood serum is strongly bactericidal *in vitro* for typhoid and dysentery bacilli and that it may retain this property, although sometimes in a less degree, during the course of these diseases Chickens and swine are practically immune to anthrax infection, and yet it is found that the blood and the blood serum of these animals form good culture media for anthrax bacilli Dogs also are relatively immune, and their blood likewise is a good nutritive medium for this form of micro-organism Rabbits, on the other hand, are very susceptible to anthrax infection, while their extravascular blood serum almost instantly kills large numbers of the bacilli Cattle and sheep are susceptible to anthrax, and their blood serum also forms good culture medium, but it has been shown that this serum contains a large amount of amboceptor which, with a suitable complement, may take part in the destruction of the bacilli These experiments therefore do not give us the slightest hint as to why one animal is susceptible to a certain infection and another is immune to it They show that the results obtained by test-tube experimentation do not necessarily give us any information regarding that which takes place in the animal body

It has often been the aim of investigators to make the test-tube experiments as simple as possible This simplicity is doubtless a desirable thing, but necessarily produces a set of conditions entirely different from that encountered in the animal body, and the results thus obtained must accordingly be of little value in giving us an insight into the processes going on in the animal organism Recognizing this fact, Bail and Petterson[1] have made a series of experiments in which they attempted to approximate the conditions that are found in the body, and the results thus obtained are entirely different from those obtained by the simpler experiments They have shown that rabbit serum which is anthracidal *in vitro* is deprived of that property by the addition of only a small quantity of an emulsion of organ cells, such as liver, spleen, bone-marrow, etc This seems to be due to the fact that the organ cells have a greater affinity for the amboceptors of the serum than have the anthrax bacilli, thus taking them away from the latter In the small capillaries of the living organs the amboceptors may likewise be bound to the organ cells, and thus be prevented from taking part in the destruction of the bacilli that have reached the organs This seems to be a satisfactory explanation of the susceptibility of rabbits to anthrax infection, in spite of the fact that their extravascular blood serum is strongly anthracidal Chickens are practically immune, although their extravascular blood serum possesses no anthracidal powers It does, however, contain amboceptors as is shown by the fact that it can be made active by a very small quantity of rabbit serum If, now, normal chicken serum is mixed with bone-marrow or with leucocytes, it at once becomes anthracidal Beef, goat and swine serums also may be made active by the addition of chicken's bone-marrow Bail and Petterson conclude from this observation that the bone-marrow and leucocytes of the chicken contain a complement which, acting conjointly with the amboceptors in the serum, destroys anthrax bacilli, and thus protects chickens against infection Dog serum with leucocytes or bone-marrow also has anthracidal powers, thus explaining the relative immunity of dogs The leucocytes and bone-marrow seem to be capable of giving off small quantities of complement to the serum, as is shown by the fact that the serum is slightly anthracidal when obtained twenty-four hours after the intravenous injection of a large dose of anthrax bacilli, also by the fact that the cell-free exudate obtained from the pleura of a rabbit dead from an intrapleural injection of anthrax is capable of activating dog, sheep or hog serums None of these serums is anthracidal nor is the cell-free exudate when used alone

Bail and Petterson immunized young dogs and chickens by repeated injections of anthrax bacilli until these animals could stand about ten times the ordinary fatal dose (Young dogs are more susceptible to anthrax infection than older ones) They then studied the organs and body fluids of these animals to determine the change produced in them during the process of immunization The blood serum, in no instance, had acquired anthracidal powers, but it was found that the defibrinated blood was capable of destroying the bacilli This anthracidal power of the blood was shown to be proportional to the number of leucocytes contained in it, and these were greatly increased by the injections of anthrax bacilli The mixture of serum and bone-marrow had acquired a much higher anthracidal power than a similar mixture from a normal dog of the same age The investigators could not detect an increase of amboceptors in the serum but believe that there was an increase in complement, because there was a marked increase in the leucocytes, and these they believe contain the complement These experiments show very nicely the great complexity of the phenomena of infection and immunity and also emphasize again the important part played by the leucocytes in protecting the body against bacterial invasion

EUTHANASIA FOR THE DEFECTIVE AND INCURABLE

Every little while some enthusiastic or notoriety-seeking writer bobs up advocating the curtailing of human existence in hopeless and incurable cases The idea of the sacredness of human life is hardly sufficiently installed in such people's intellect, hence these lucubrations Moreover, it is apparently a belief of many of the laity that physicians do assist hopeless cases out of the world Not long since a writer in a daily paper speaking as an ex-mayor of a large city, told of a case of this kind, admitted by the physician and claimed to be justifiable, which he was forced to investigate He says he consulted the best physicians in the city, and that they justified the act We doubt this statement throughout We do not believe that any number of physicians in any city would express such an opinion It is directly contrary to the spirit of the profession and it is certainly unfortunate that one writing as a municipal reformer should be willing to publish such a statement

Now comes the announcement that a French professor is advocating premature euthanasia for incurables and the establishment of death rooms in hospitals where hopeless patients, at their own volition, may be painlessly sent out of the world Such publications are dangerous as tending to diminish the respect for human life which should prevail in any civilized community as directly encouraging homicide, and as unpardonable as any other form of murder

We may excuse the person who commits suicide to avoid inevitable torture or dishonor, but we can not justify in any way the physician who deliberately cuts short his patient's existence under any conditions whatever. It is his business to prolong, not to curtail human life, and under no circumstances whatever can he alter this rule. For professional reasons, altogether apart from those of public policy which would also prohibit such taking of human life under any circumstances, a physician should be the last of all men to advocate or excuse it. Death rooms in hospitals for the purpose proposed would be about as respectable as suicide clubs.

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[1] Centralblatt f Bakt 1903 04 vols xxxv xxxvi

PATENT MEDICINES CONTAINING ALCOHOL BARRED IN SOUTH CAROLINA

According to the South Carolina newspapers, they are taking effective action regarding certain "patent medicines" that it might be well for other states to follow. Probably it is because South Carolina through its dispensary law controls the sale of alcoholic liquors that it is able to do what it seems to be doing. One paper speaks of drug stores being prohibited from selling peruna on account of the alcohol it contains, and that hereafter it can be had only on the prescription of a physician. Another shows that it is not only peruna that is barred, but Hostetter's bitters, De Witt's stomach bitters and some others less known because less advertised. According to the state chemist's analysis Hostetter's bitters contains 41.3 per cent., De Witt's stomach bitters 37.6 per cent., and peruna 26 per cent. of alcohol, and consequently are to be classified as intoxicants.

CARBOLIC ACID AND ITS DANGER.

Carbolic acid has long been regarded as a harmless chemical and as such forms part of the domestic equipment of many homes. Its dangers, however, are coming to be appreciated. We have learned that even in dilute solution it may cause serious lesions and its lethal possibilities are recognized by an increasing number of would-be suicides. It is on account of this last named fact that the health authorities of New York City have, it is reported, made a regulation requiring the registration of all sales of carbolic acid of strength above a 5 per cent. solution. This is a measure which can be commended and should have been adopted before. It is to be hoped that the example will be followed in other communities. It is rather a curious fact that suicides often choose most repulsive and uncomfortable methods, and this may account for the preference in so many cases for carbolic acid, which can hardly be considered an agreeable method. Be this, however, as it may, the chances of accidents from the common domestic use of this poison are of themselves sufficient to justify restrictions of its sale.

NERVOUSNESS IN SCHOOL CHILDREN

According to statistics, reported in the daily press one in three of the school children of the city of Chicago is affected with some form of nervous disorder showing itself usually in the form of sluggishness and mental depression with melancholic tendencies or by some degree of choreic manifestations. The causes alleged are the strenuous city life, the impure atmosphere of dwellings, the bringing up of children in flat buildings with deficient facilities for exercise, light and ventilation, the constant noise, day and night, and late hours and lack of sufficient sleep and nutrition. Beside the danger of overdevotion to study, city children are subject to excitements and social temptations to which those in smaller communities are far less liable. The introduction of manual exercises in schools will prove remedial to some extent, but it seems from the list of alleged causes that some of them are almost irremediable. The urban tendencies of population at the present time are not favorable to the production of a robust race, and any sanitary measure that will counteract this tendency should be encouraged. It may be that a special city type of mankind will be evolved; we fear a more or less defective or degenerate one. In the meantime we will have to go on enlarging and multiplying our asylums for the defective and the insane, and recruit as heretofore the best blood from the country.

COMMISSIONS ON PRESCRIPTIONS

A Philadelphia chemical company is trying to corrupt those of our profession who may be corruptible by the old scheme—for it has been tried several times before without success—of offering commissions on prescriptions in the shape of shares of stock in the company. "A credit will be allowed, equal to 25 per cent. of the wholesale price of the prescriptions prescribed, redeemable in stock of the company." The company in its booklet assures the reader that the concern "is strictly a co-operative pharmaceutical house, owned, controlled and operated in the interest of the profession. Ninety-five per cent. of the stockholders are medical men, and no stock will be sold or disposed of except to members of the medical profession and doctors of dental surgery." This certainly will reassure anyone who may have any doubts as to the ethical nature of the scheme. Positively no stock-exchange operators or other gamblers will be allowed to get within reach of this plum, whose stock is so valuable "that only a reasonably short time will elapse before the company will be able to pay dividends equal to the par value of the stock." Each physician is supplied with a book of blanks, wherein he is to enter, day by day, opposite the name of each preparation of the company, the amount he has that day prescribed. Once a month he is to send in this drummer's sheet and secure his rake-off. The prospectus does not say so, but we suppose that those who sell the most goods will be put on a regular salary basis and be considered regular drummers for the house. There is one sign of conscience about the managers of this scheme—they doubtless fear that some practitioners may prescribe the company's goods without proper discretion and increase their commissions without due regard for the welfare of the patients. The following statement appears, therefore, in conclusion: "You should make yourself acquainted with the formulas and uses of the preparations and prescribe them whenever you believe they will be as efficacious as those of any other manufacture."

THE BACTERIOLOGIC DIAGNOSIS OF DIPHTHERIA

While the specificity of diphtheria and the diphtheria-bacillus is universally admitted, it is recognized that, on the one hand, membranous deposits may form in the air passages from other causes, while, on the other hand, the bacillus may be present in association with catarrhal manifestations alone or even without other evidences of diphtheria. Diphtheria-bacilli have been found also in the throats of persons suffering from other diseases, scarlet fever especially. In order to clear up some of the mooted points in connection with the presence and the pathogenicity of diphtheria-bacilli, Dr. B. Czerno-Schwarz[1] made a study of the nasal and pharyngeal secretion from the patients admitted to the department for contagious diseases at the Wladimir Children's Hospital of Moscow. Of 385 patients received into the division for cases of scarlet fever and measles, 45 (11.6 per cent.) yielded, on first examination, a growth of diphtheria-bacilli, divided as follows: Eight of 207 cases of scarlet fever, 3.6 per cent., 37 of 160 cases of measles, 21.92 per cent. Of the former patients, seven presented necrobiotic angina and one follicular angina, while of the latter only two presented symptoms of diphtheria. As a result of the observations made, the conclusion is reached that negative results from repeated examination for the presence of diphtheria-bacilli are of undoubted and absolute value. By this means it has been demonstrated that membranous angina, laryngitis and croup may be of non-diphtheric origin. The significance of positive results from bacteriologic examination is likewise undoubted when the clinical picture is that of diphtheria. When, however, there is a discrepancy between the clinical picture and the results of bacteriologic examination the diagnosis must be considered as doubtful.

FIBRINOUS BRONCHITIS

Fibrinous bronchitis is a rare disorder, probably of diverse etiology. The diagnostic feature is the expectoration of casts of the bronchial tree, of varied shape and length, in conjunction with a sense of suffocation, cyanosis, shallow and frequent respirations, enfeebled respiratory murmur, and unaltered percussion-resonance unless the alveoli become occluded or atelectasis develops. The symptoms disappear temporarily with the expectoration of the coagula, to return on their re-formation. There has been some difference of opinion as to whether the casts consist of fibrin or of mucus, the one substance being found in some instances and the other substance in other instances. From all of the evidence, however, it would appear as if both substances are often present, sometimes together, sometimes alone. Confirmation of this view is afforded by a communication recently made by Dr. Gustav Liebermeister,[2] who reports in detail a case of fibrinous bronchitis, and also gives the results of a study of the casts obtained from twelve other cases of similar kind. He found that the coagula expelled in a case of grave heart disease during the death agony differed only in their great thickness from the casts expelled in cases of true fibrinous bronchitis, although they agree chemically and histologically. Idiopathic fibrinous bronchitis is to be strictly differentiated, with reference to both the etiology and the morphology of the coagula, from descending diphtheria and from diphtheria of the bronchial tubes without involvement of the larynx. The coagula of true fibrinous bronchitis are honeycombed in structure, more or less completely filling the lumen of the bronchial tubes and generally containing a moderate amount of air. Microscopically the appearances presented are those of a reticular structure, consisting of fibrin and mucus, and having spaces containing few cells. Fibrin was demonstrable in the casts in all of the cases and mucus also in seven. In cases of descending diphtheria, structures analogous to the deposits on the tonsils and the larynx are formed in the bronchi. These consist of a dense compact, finely fibrillated fibrinous network, containing enormous numbers of cells, and they appear as simple or dendritic cylindrical membranes that can be detached from the mucous membrane surface only with the loss of epithelium. Curschmann's spirals were found in only one case among thirteen. The presence of Charcot-Leyden crystals and of eosinophile cells in the casts could not be demonstrated in any case.

THE SPECIFICITY OF THE BODY CELL TOXINS

The observation that the blood of one species of animal is toxic to members of another species is an old one, and the modern studies set on foot by the work of Bordet and others have greatly extended our conception of body-cell toxicity, and have shown that it is not confined to blood cells alone. It appears at first sight such a simple matter to inject a particular cell or organ from one species of animal into a member of another species, that this line of research has been extensively followed in the last year or two. Then the results achieved in some instances by this work have illuminated some of the dark regions of pathology, and further research has seemed likely to give good results. It has been pretty generally assumed by the workers along these lines that a cell specificity existed, i. e., that if an animal is injected with ciliated epithelium it will produce antibodies for ciliated epithelium only, but it seems probable that this presumed specificity has been greatly overestimated. This whole question of specificity has recently been investigated by Pearce.[1] As Pearce indirectly brings out, many of the previous investigators seem to have assumed that morphologically similar cells would give rise to similar antibodies. Pearce's work had for its object to demonstrate that the chemical composition of the cell and not its morphology is the factor determining its specificity of action. He likewise endeavored to show that many of the results supposedly due to the specific action of one cytotoxin are really due to other cytotoxins adventitiously elaborated as the result of improper methods of immunization. As a result of his observations, Pearce concludes that the cells of the various organs of the body while differing in morphology and function have certain receptor characteristics in common, and that one type of cell may therefore produce antibodies affecting several cell groups of differing morphology, but with like receptor groups He also concludes, from comparing results obtained with organs as ordinarily removed with those obtained with organs freed from blood, that many of the positive results described as specific are due, not to specific action of the particular cell or organ used, but rather to the blood introduced with them It would seem, therefore, that not a little of the published work on cytotoxins is valueless on account of mistakes in technic, and that much of the valuable work has been misinterpreted This means that a great deal of research must be done over again by the more careful methods suggested by this study

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[1] Archiv für Kinderheilkunde, vol. xxxiv, Nos. 1-3, p. 113.

[2] Deutsches Archiv für klin. Med., vol. lxxx, Nos. 5-6, p. 551.

[1] Journal Med. Research, vol. xii, No. 1.

Medical News.

ILLINOIS

Personal.—Dr Anna E Blount, Oak Park, has returned after a year in Europe——Dr Pliny W Blanchard is seriously ill at his home in Harvard.

Smallpox.—The smallpox situation at Belleville is causing grave anxiety, and the authorities are taking all possible precautions to limit the spread of the disease——Dr John J Leahy, Lemont, who claimed $5,750 for services during a smallpox epidemic, was *allowed $5,000 in full of all claims*

Copper as a Germicide—The State Board of Health is conducting investigations to determine whether water with typhoid fever or cholera germs can be purified simply by being kept in copper containers for a few hours The experiments are being made under the direction of Dr John H Long of the Northwestern University Medical School

Chicago

Smallpox.—During the week 5 cases were sent to the isolation hospital Two unvaccinated children died at the hospital

Thousands for Hospital.—At the annual benefit concert for the Samaritan Hospital held September 16 $2 000 was realized for the institution

College Lengthens Course—The College of Physicians and Surgeons, the College of Medicine of the University of Illinois, has extended its course to nine months The term opens September 27

Pneumonia Deaths Increase—The deaths from pneumonia for the week ended September 17, were 34, an increase of 15, or nearly 80 per cent over the mortality of the previous week from this cause.

Deaths of the Week.—The total deaths for last week were 143, the same as for the previous week. The increase in pneumonia mortality was more than compensated by the decrease in deaths from the more directly controllable diseases, and notably from those of the intestinal tract, such as acute intestinal diseases and typhoid fever

INDIANA.

Sanitarian Appointed—Dr T Victor Keen has been appointed city sanitarian by the Indianapolis Board of Health. The board will equip a laboratory for the chemical and bacteriologic research work of Dr Keen

Takes Strychnin by Mistake—Dr H. M. Connelly, Shelbyville, who has been in ill health for a long time, recently took strychnin in mistake for other medicine He became violently ill, but his life was saved by prompt medical care

Pre medical Examinations—On September 15 and 16 the State Board of Medical Registration held an examination at Indianapolis of applicants for admission to the medical colleges of the state whose preliminary education had been outside of the regularly accepted sources

IOWA.

Hospital for Poor and Old—A W Buell, Mount Pleasant, has donated a building and grounds of ten acres in that city as a home and hospital for the aged

Physician Re located—Dr Alonzo E Rodgers, formerly of Stanhope, who was confined in the Tipton jail for several months on a charge of forgery, which at the trial was shown to have occurred through a misunderstanding, has been released and will practice at Homer

Jury Trial for Inebriates.—On the completion of the new state hospital for dipsomaniacs at Knoxville, the authority to hear and pass on cases of dipsomania will be taken from judges, and in each such case a jury will decide whether or not the individual is a fit subject for commitment to the hospital

New Rules for Diphtheria Quarantine.—The State Board of Health has promulgated the following rules regarding the quarantine limit after diphtheria

> Quarantine shall be released in those houses in which diphtheria has been diagnosed when synchronous cultures taken from the noses and throats of all infected persons quarantined show two consecutive negative examinations providing the regulation of the board regarding disinfection and fumigation have first been complied with.
>
> Those who have been quarantined with diphtheria patients may be released from quarantine when both nose and throat cultures on examination by a bacteriologist of the state board of health do not show the presence of diphtheria bacilli
>
> In districts where it is not possible or desired to use the laboratory findings as a means of regulating quarantine, those suffering from diphtheria shall be quarantined for a period of not less than four weeks for initial symptoms where antitoxin is used and five weeks where antitoxin is not used

LOUISIANA

Generous Donation for Italian Hospital.—Capt Salvatore Pizzati, New Orleans, has given $250,000 as the nucleus of a fund for the establishment of a hospital for Italians in New Orleans

Medical Student Dies.—Emile Hussey, New Orleans, a medical student at Tulane University, died September 1, as a result of *injuries to the spinal cord received while diving into shallow* water at Bay St Louis, in July last

Health Board Matters.—The St Bernard Board of Health assembled, September 6, and organized with Dr Louis E Fondruat as *chairman and ex officio* health officer——On September 6 Drs J A. Harper, J F Polk, and Phau R. Outlaw were elected members of the Slidell Board of Health.

MARYLAND

Faculty Honors Osler—The Medical and Chirurgical Faculty of Maryland, at its semi annual meeting in Ocean City, September 9, authorized the president to appoint a committee to take marked action in regard to the departure from the state of Dr William Osler A portrait of Dr Osler is to be painted and placed in the hall of the faculty in Baltimore.

Personal.—Dr Herbert L Rich, of the science department of Western Maryland College, has been made a resident physician of the Jacob Tome Institute, Port Deposit——Dr J B Schwatka returned from Europe September 16——Dr Herman Bruelle has gone on a southern trip, and will visit Fredericksburg——Dr William Hewson Baltzell will spend the winter in Rome

Baltimore

Lowered Mortality—The mortality rate last week was at the annual rate of 15 48 per 1 000, viz white, 14 00, colored, 23 52, for the previous week the respective rates were 20 47, 16 95, and 39 62 per 1,000

College Opens.—The course at the College of Physicians and Surgeons will open the evening of September 30, with an address by Prof Wm Royal Stokes, who will speak on "Some of the Great Achievements of the Last Century"

MASSACHUSETTS

Surgical Building Offered.—The Brockton Hospital Corporation has accepted a surgical building donated by Hon. William L. Douglass, to cost $22,000

Alleged Counterfeiter Held.—Dr Frank Sanft, at whose house in Roxbury $10,000 in counterfeit money was found, has been held to the grand jury

Hospital Building Permit Granted.—Permission has been granted to the Waltham Hospital Association to build a two story concrete building, to cost $25,000

Member Expelled—Dr George S Hatch, Boston, formerly of Pittsfield, and now a fugitive from justice, was expelled from the Berkshire District Medical Society at its meeting last month

Imprisoned for Refusing Vaccination—A resident of North Adams is serving a sentence of eight days in the House of Correction for refusing to be vaccinated. He will not only have to serve out his time, but, in accordance with the rule of the institution, must be vaccinated.

Personal—Dr Charles G Stearns Lancaster has retired on account of impaired health ——Dr Nathaniel Wallis, Fitchburg, will soon start for Australia ——Dr Julian D Lucas, Chelsea, has been made assistant to the medical officer of the port of Boston ——Dr William L Smith, Worcester, has been appointed honorary physician to the Shah of Persia.——Dr John A Bruce Everett is taking a four months' tour of Europe

MICHIGAN

Fire Loss—At a fire which at one time threatened to destroy all the business section of North Branch the office of Dr Albert E Weed, with its contents, was entirely consumed No insurance was carried

Pre-Medical Examination—The examination for entrance to Michigan medical colleges, for students who have not received diplomas from high schools or colleges, was held in Detroit, September 14 and 15, under the direction of the Michigan State Board of Registration in Medicine

The Most Dangerous Communicable Diseases—Meningitis was reported during August at 7 places, whooping cough at 24 places, pneumonia at 26 places, measles at 38 places, diphtheria at 66 places, scarlet fever at 74 places, smallpox at 106 places, typhoid fever at 161 places, and consumption at 295 places Meningitis was reported at 1 place less, whooping cough at 10 places more, pneumonia at 6 places more, measles at 35 places less, diphtheria at 9 places more, scarlet fever at 4 places more, smallpox at 10 places less, typhoid fever at 88 places more, and consumption at 7 places more in August than in July

Comparative Disease Prevalence—For August, 1904, compared with the average for August in the last 10 years, pleuritis, smallpox and diphtheria were more than usually prevalent, and cholera infantum, dysentery, intermittent fever, erysipelas, remittent fever, whooping cough, pneumonia, measles, and inflammation of brain were less than usually prevalent This lessened prevalence was probably due, in great part, to the lower than average temperature during the month So far this year, in Michigan the average temperature each month has been lower than the average for the ten years preceding

August Mortality of Michigan—There were 2,593 deaths during August, 83 more than in the previous month The death rate was 12 1 per 1,000 population By ages there were 576 deaths of infants under 1 year of age, 199 deaths of children aged 1 to 4 years, and 677 deaths of persons aged 65 years and over Important causes of death were as follows Tuberculosis, 190, typhoid fever, 41, diphtheria, 20, scarlet fever, 7, measles, 3, whooping cough, 7, pneumonia, 56, diarrheal diseases, under 2 years, 331, meningitis, 29, cancer, 134, and accidents and violence, 203 The mortality from typhoid fever and diarrheal diseases showed the customary seasonal increase

MISSOURI

Medical Schools Open—University Medical College, Kansas City held its opening exercises September 6, and Central Medical College and Ensworth Medical College, St Joseph, September 15

Gift to Hospital Fund—The St Joseph's Orphan Society, a charitable organization of Jefferson City, has given all its assets, amounting to $2,298, to the new hospital of the Sisters of St Mary, now being erected at Jefferson City, at a cost of $75,000

Epidemic at Wien—An infectious disease resembling tropical dysentery has been raging for six weeks among the children of Wien, Chariton County Fifteen children have died, and many are seriously ill The State Board of Health is making a strict investigation into the nature of the disease

Personal.—Drs Frank L Whelpley and William J Loler have been appointed assistant physicians at the St Louis Insane Asylum ——Dr Joseph F Robinson has been re elected superintendent of State Hospital for the Insane No 3, Nevada ——Dr F L Sutton, Sedalia, has returned after an absence of a year on account of ill health and has resumed practice ——Dr John R A Crossland, St Joseph, was recently shot in the course of an altercation with a brother practitioner He will recover

NEW YORK.

Personal.—Dr Wallace Clarke, Utica, has been appointed by the State Commissioners of Health a smallpox expert in his department ——Dr Clarence A Potter Gowanda, has been appointed first assistant physician at the Gowanda State Hospital

Buffalo

Personal—Dr Charles G Stockton has returned from Europe ——Dr Emil S Tobie will soon sail for Europe ——Dr John Hauenstein, oldest practitioner in the city, recently celebrated the seventy third anniversary of his arrival in Buffalo ——Dr Francis E Fronczak was re elected general medical examiner of the National Polish Union at its last convention

Vital Statistics of August.—The monthly report of the department of health for August shows an annual death rate of 15 57 per 1,000 The principal causes of death were Consumption, 40, cholera infantum, 67, typhoid fever, 4, debility, 30, cancer, 18, apoplexy, 16, meningitis, 11, valvular heart disease, 2, pneumonia, 17, appendicitis, 9, diarrhea, 15 dysentery, 10, enterocolitis, 15, gastro enteritis, 25, ileocolitis, 10, nephritis, 14, and violence, 31 The total deaths for August were 487, as compared with 538 deaths for August 1903

Scarlet Fever from Infected Milk.—An epidemic of scarlet fever has occurred which is directly attributable to milk supplied to the families This milk is supplied by the Certified Milk Company from dairies in Elma Two years ago these dairies were inspected by a number of Buffalo physicians, who refused to certify that the milk as then handled was cleanly In this present epidemic it has been found that the daughters of the man who milks the cows has scarlet fever, and that the son of the proprietor of the dairy also had the disease The health authorities have stopped the further supply of milk from this source and reported the matter to the State Department of Health, which has jurisdiction State Health Inspector Dr Johnson of Albany has arrived to make an investigation of the scarlet fever epidemic Dr Henry R Hopkins, in an open letter to the Buffalo *Express*, holds the health commissioner to blame in that he allowed the sale of infected milk when the milk register inaugurated by the former health commissioner showed a number of scarlet fever cases on the milk route of the Certified Milk Company It is deplorable that the health officer of Elma did not stop the supply of milk from the infected dairy at Elma as soon as he knew that scarlet fever existed on the premises One death has already occurred, it is claimed, as a result of this infection, that of Mrs Sicard A further epidemic of scarlet fever in which 10 cases have already occurred has been traced to the milk supplied by another dairy The sale of this milk has been promptly stopped by the health department

New York City

Pasteurized Milk Stations Closed—The summer season of Nathan Straus' pasteurized milk depots has closed During the summer 2,149,194 bottles were distributed, and more than 800,000 glasses of milk were sold in the parks and recreation piers

Bellevue Doctors Want Men Servants—The president of Bellevue Hospital Medical Board recently issued an order that hereafter women should be employed as servants for the hospital internes The 44 physicians and surgeons interested have made a formal protest asking the president to revoke his order

Better Pay at Bellevue—To obtain better service from a better class of men, the pay of orderlies at Bellevue Hospital has been raised to $30 per month, and each will be held strictly accountable for the accuracy of his work It is hoped that this will do away with many complaints of ill treatment at this institution

Contagious Diseases—In the week ended September 12 there were reported 391 cases of tuberculosis, with 139 deaths, 176 cases of diphtheria, with 25 deaths, 146 cases of typhoid fever, with 21 deaths, 60 cases of scarlet fever, with 2 deaths, 40 cases of measles, with 8 deaths, 2 cases of varicella and 1 deaths from cerebrospinal meningitis

Personal—Dr Alexander Lambert has gone to Canada moose hunting ——Dr James R. Healy has recently undergone a serious operation at Roosevelt Hospital, and is now convalescing ——Dr H Holbrook Curtis arrived from Europe September 17 ——Dr Follen Cabot, Jr, has been appointed genito urinary surgeon to the City (Charity) Hospital

Bequests—Under the will of the late Solomon Gerber the Lebanon Hospital and the Home for Aged and Infirm Hebrews each received a bequest of $250 ——Under Dr Henry Tuck's will the New York Society for the Relief of Widows and

Orphans of Medical Men of New York City, the Society for the Prevention of Cruelty to Children and the New York Charities Organization Society were the recipients of generous legacies

Begin to Fight Trachoma—The board of health inspectors have begun the work of examining the eyes of all school children for trachoma Every child affected with the disease is kept from school until *an operation* has been performed or treatment initiated A new trachoma hospital has been opened where the operations will be performed by the department free of charge

Physicians' Aid Association Prosperous—The recent report of the New York Physicians' Mutual Aid Association, now in its thirty fifth year, shows the organization to be in a very prosperous condition, with a membership of nearly 2,000 The association has on hand a permanent fund of nearly $50,000 Much good has been done in relieving its members during periods of illness, and in paying the families of deceased members $1,000 each

Cornell University Medical College.—Dr Frederick Whiting has been appointed professor of otology vice Dr Gorham Bacon, resigned——Dr Adolf Meyer *has been appointed* professor of psychiatry vice Dr Allan McLane Hamilton, resigned——Many students are registered for the coming first year class to begin work on September 28 The campaign carried on so vigorously in the medical press for better preliminary education is beginning to bear fruit, for 78 per cent of those applying present evidence of having studied chemistry and physics

Druggists Protest—Committees of druggists have been appointed to wait on Commissioner Darlington and ask him to rescind or modify his recent ruling that pure carbolic acid must not be sold except on the presentation of an *order from* a licensed physician The druggists claim that the health department is usurping the functions of the State Board of *Pharmacy* by *amending* the sanitary code so as to regulate the sale of poisons This move is also viewed with alarm because it can not be seen where the commission may stop If it is permitted to discriminate in regard to carbolic *acid there* would be nothing to prevent its making regulations in regard to the sale of opium, morphin, cocain or even whiskey or beer

PENNSYLVANIA

Nominated for Congress—Dr Salem Heilman, Sharon, has been nominated as Democratic candidate for congress

Personal.—*Dr George D Morton,* Moores has been named a member of the board of health vice Dr A C H Schneider, deceased

New Staff Members at Reading Hospital.—Dr Harry F Rentschler *has been made assistant* physician, vice Dr John Shartle, resigned——Dr Frank G Runyeon has been nominated as assistant to Dr William S Bertolet——Drs Fred L R Mattern and George W Overholser were made assistant physicians

Charged with Illegal Practice—Drs Joseph C Denston Emilie D'Antonio and Guiseppe Villone Scranton, have had warrants issued *for their arrest on the charge that they* violated the act of 1893, which provides that every physician practicing medicine in Pennsylvania shall have a certificate from the State Board of Examiners and that this certificate shall be shown to the prothonotary of each county, who shall register the physician

Philadelphia

Bequest.—By the terms of the will of Amos Wert $5,000 is given to the Methodist Hospital to provide a free bed to be known as the "Wert bed"

Physician Robbed—Dr Berthold Trautmann's residence was entered by burglars, September 13, who secured a large amount of clothing, a watch and a moderate sum of money

Personal.—Dr and Mrs Donnell Hughes, Dr and Mrs George C Stout and Dr and Mrs Charles P Noble, have returned home after spending the summer in Europe——Dr W L Rodman has removed his residence and office to 1904 Chestnut Street

Germantown Hospital—The new building of the Germantown Hospital for the treatment of private patients has been completed and was opened for inspection September 12 The building is a three story brick and stone structure and has accommodations for 25 patients

Pink Eye Prevalent—An epidemic of pink eye prevails in the northwestern part of the city, particularly among school children. On account of the highly contagious *character* of the disease, medical inspectors from the Bureau of Health have been detailed to inspect the schools and suspend all afflicted children

Work at Hospitals.—In the Presbyterian *Hospital* 405 patients were admitted and treated during August In the dispensary 2,744 patients were treated——Thirty four patients were admitted to the Howard Hospital and 1,033 were treated in the dispensary——Sixty patients were admitted to St Timothy's Memorial Hospital, and 161 were treated in the out patient service

Health Report—The prevalence of typhoid fever shows no abatement, the report for the week shows the presence of 134 cases, an increase of 34 over the previous week, with 15 deaths, an increase of one over the preceding week There are only *four* wards in which no new cases were reported The total number of deaths for the week was 408, an increase of 8 over last week, and a decrease of 10 compared with the corresponding period of 1903 In all there were 234 *cases of contagious* disease reported, an increase of 20 over last week

Work of City's Bacteriologic Department—Since the establishment of the bacteriologic laboratory in 1897, 32,878 Widal examinations have been made, *representing 28,375* cases of typhoid fever Statistics show that in 1894 when the use of antitoxin went into effect, 33 3 per cent of the cases of diphtheria *reported* to the Bureau were fatal Since the use of the agent has become more general in the city, the mortality is much lower Last year a mortality of only 17 1 per cent was reported Since 1896 there have been 38,981 doses of antitoxin distributed by the city The milk report of the department for July and August of this year, shows that in July 15,447 quarts were examined, 8,679 quarts were condemned, and 5,958 quarts were *infected* In August 194 581 quarts were examined, 6,400 quarts were condemned and 3,449 quarts were infected, making a total of 352,028 quarts examined, 15,079 quarts condemned, and 9,407 quarts infected

GENERAL

Typhoid in Winnipeg.—The number of typhoid patients in the Winnipeg (Man) General Hospital one week ago numbered 130

Panama Canal Hospital.—New Orleans is to be the site of a hospital built by the United States Government for Panama Canal patients

Lack of Poor Physicians in Hawaii—It is stated that the reduction in the force of government physicians in Hawaii has caused a return on the part of many natives to the witch doctors and that the death rate is increasing

The Dental Congress.—At the Fourth International Dental Congress held at St Louis, September 1, a gold medal was offered for the best paper Ten papers were submitted Willoughby D Miller, Berlin, Germany, received the medal, and Eugene S Talbot, Chicago, received honorable mention for the second and third best papers

Foreign Visitors.—Among the noted medical men from *abroad* who are speakers at the International Congress of Arts and Science at St Louis are *Dr Ronald Ross*, Liverpool, Dr Shibasaburo Kitasato, Tokio, Japan, and Dr Theodore Escherich, Vienna Dr Ross, the great authority on malaria, will visit Panama and Jamaica before returning to Europe. While Dr Escherich was in Albany, N Y, a reception was given in his honor by Drs Henry L K Shaw and Andrew McFarlane, September 12, and on the following evening Dr Albert Vander Veer gave a dinner in his honor at the Fort Orange Club In Chicago, Dr Escherich addressed the Chicago Medical and Chicago Pediatric societies, and was given a banquet He also made an address in the amphitheater of Cook County Hospital While in Chicago he was the guest of Dr A C Cotton, who gave a *reception in his honor* Dr Kitasato, the famous bacteriologist of Japan, received a very warm *greeting in* Honolulu The Hawaiian Territorial Medical Association gave him a *reception and banquet*, and there were other functions in his honor

THE RECENT ARMY MANEUVERS

Field Practice for the Army Medical Department

(*From our Special Correspondent*)

The recent maneuvers in Virginia have attracted much public interest, both because the number of troops participating was far larger than has ever before been assembled in this country in time of peace for such a purpose, and because the extensive area covered by them embraced the historic fields of the first and second battles of Bull Run

The operations of the medical department of the two maneuver divisions, the 'Blues" and 'Browns," which together mustered 26,000 men, presented several features of interest The medical organization comprised the regimental dispensaries, field hospitals, and a base hospital for each army The function of the regimental dispensaries was to render first aid on the march and in battle and to treat in camp the mild cases which did not require transfer to the base hospitals The personnel of these was, for the state troops, furnished by their own medical officers and hospital corps men, and they brought with them the medical equipment furnished by their respective states Many of the regiments had the new U S Army regimental field chests and pouches recently issued to the states under the provisions of the Dick militia bill while, in the case of others, the medical equipment was more or less obsolete or wanting Some regiments brought surgeons, but no hospital corps men "broom handles but no brooms" There were two field hospitals and two ambulance companies for each army These were manned and equipped, as were the base hospitals by the Medical Department of the Regular Army although surgeons and hospital corps men were taken from such militia regiments as could spare them, and attached to these organizations for purposes of instruction and to fill up as far as possible their shortages in personnel

The field hospitals are mobile organizations, which march with the troops, there being theoretically one for each brigade Their function is to give temporary care and shelter to the wounded after battles until they can be transferred to a stationary or base hospital, where can be found the rest and elaborate equipment which field hospitals can not afford

The ambulance company is in battle the connecting link between the regimental dressing stations on the line of battle and the field hospital in the rear The widely extended order of modern tactics and the great range of rifles and artillery make this gap a broad one and the duties of the bearers and ambulances correspondingly arduous In these maneuvers the labors of the ambulance companies were, however, much lightened by the military ardor of the soldiers designated to play the part of the wounded, for these, being unwilling to leave the exciting scenes at the front, in most cases concealed their tags in their pockets or dropped them behind a convenient bush and remained in action But though wounded were lacking there were abundant applicants for seats in the ambulances on the part of the undeveloped youths whose strength was not equal to the burden of the blanket roll, rifle and haversack, and who strewed the roadsides during the first maneuver Later these were left to guard the camps

The two base hospitals at Thoroughfare and Manassas respectively were models of complete equipment and orderly administration These received all serious cases of illness or injury which required treatment in bed Each had the capacity of a field hospital, namely, 108 beds, and while neither was at any time full, several hundred patients were treated in them including some severe cases of injury such as fracture of the femur, ulna, radius and clavicle, and one penetrating gunshot wound of the chest caused by the paper bullet of a rifle blank cartridge The paper bullet usually flies to pieces at the muzzle of the rifle, but in this case the weapon was discharged nearly or actually in contact with the body of the soldier and the conical wad penetrated the blouse, shirt and chest wall in the region of the liver There was severe shock, but under an aseptic occlusive dressing the wound has done well and the patient is expected to recover

These maneuvers have been of the greatest educational value to the medical personnel, beside affording an opportunity to test the medical organization and equipment on a large scale Their value to the state troops would have been vastly increased could they have arrived in camp several days before the beginning of the field operations so as to have had an opportunity to have gained coherence of organization by regimental and brigade drills This would also have afforded time for the instruction of the regimental medical personnel in their duties As, however, the movements began the day after the troops assembled, no time was given for the regimental surgeons to learn their place and function in the scheme of medical organization, and some lack of co ordination was the natural result

FOREIGN

Plague is reported in Paraguay and the sanitary condition are not such as to promise its ready extermination

Italian Hospital Receives Gift—The Italian Hospital in the City of Mexico has received $2,000 from King Victor Emmanuel

European Physicians Studying Yellow Fever in the Americas—The French committee now in Brazil consists of Drs Marchoux, Simoni and Salimbeni Dr G Cocchi is in Mexico for the same purpose, delegated by the Italian government The Associated Press report for the week states that there are only fifteen cases of the disease in all Mexico and half of these are in the hospital at Vera Cruz This is a remarkably favorable showing for the month of September and demonstrates what has been accomplished in the way of preventive sanitation

Cholera in Persia—The *Tribune Med* comments on the fact that one province of Persia, of which Tauris is the capital has remained free from cholera during the epidemic that has been devastating the country The crown prince resides there and his physician was trained in the medical schools of Paris They co operated to prevent the importation of the disease establishing quarantine stations and adopting the measures necessary to stamp out the few cases known to exist Their efforts were successful, and probably for the first time in history a Persian city has passed unharmed through an epidemic of cholera sweeping over the country A St Petersburg exchange states that the disease is still spreading The death in Meschhed numbered 417 between July 26 and August 1 Refugees from this place have carried the disease into Russia and a Cossack regiment at Merw has become infected, 9 deaths in 53 cases being reported among the dead being the troop physician There have also been 9 deaths in 13 cases in the town The shipping on the Caspian and travel on the central Asiatic railroad is under medical inspection

DUBLIN LETTER

Smallpox in Ireland.

Considering how widely distributed smallpox has been in England and Scotland during the past few years Ireland is fortunate in having escaped without any outbreak that could receive the name of epidemic Both Dublin and Belfast had a considerable number of cases last year, but in neither city did the disease spread to any great extent, and the number of deaths was very small This is no doubt due chiefly to the very efficient system of vaccination practiced in Ireland, where neither 'conscientious objectors" nor "antivacs" are known This year, while there is nothing in the nature of an outbreak at any center, several cases of smallpox have been reported from various towns throughout the country In Armagh, a town of seven thousand inhabitants, there have been over twenty cases, while in Drogheda, Monaghan, Castleblayney and Dublin smaller numbers are reported The infection seems to have been imported from Glasgow to Drogheda and Armagh, whence it has spread to the other places mentioned

The Queen's Colleges

The annual reports from the presidents of the Queen's Colleges of Belfast and Cork, which have recently appeared, give evidence of increased activity in both those institutions In Belfast, in particular, advance, during the past few years, has been very rapid Following on the establishment of the Royal Victoria Hospital, and in part as a result of the opportunities it gives for clinical work, the Belfast School of Medicine is now one of the largest in the Kingdom It is stated that the number of students on the roll this year is greater than that of any other school in Ireland, with the exception of the Catholic University School in Dublin, while only two English schools—Cambridge University and Guy's Hospital—exceed it The college in Belfast has recently received special funds to provide for pathologic research and teaching, in the endowment of a Musgrave chair and a Riddel demonstratorship in pathology In none of the Queen's Colleges did the original scheme include a chair of pathology, so that considerable diffi culty has been met in providing for the teaching of that subject, but it has now been successfully coped with in all three colleges Great regret is expressed at the departure from Belfast of Dr Lorrain Smith, who has accepted the chair of pathologic anatomy in the Victoria University of Manchester The president of the Cork College, Sir Rowland Blennerhassett, has, in consequence of ill health, resigned his office He was given this post, for which he was little fitted, a few years ago as a reward of political services, but it occupied only a small share of his time, as he spent most of each year on the continent

Sir Thomas Browne and the Medical Profession

The proposal which is before the public at present to raise a memorial to the author of "Religio Medici" has roused the wrath of Dr Conolly Norman, the well known alienist of this city, and he appears in the columns of the *British Medical Journal* in the character of *advocatus diaboli* Whatever claims Sir Thomas Browne has to the admiration of merely literary people as a great master of English prose, he has no claim whatever says Dr Norman in effect to the respect of the medical profession He is not a great physician since he is neither scientific nor humane For proof of the first of these charges Dr Norman refers to Browne's works and thinks the charges is justified while the second charge is based on his action in the trial of the women Deny and Cullender at Bury in 1664, on the charge of causing fits in children by witchcraft "Sir Thomas Browne of Norwich, the famous physician of his time, was in court and was desired by my lord the chief baron to give his judgment in the case and he declared that he was clearly of opinion that the fits were natural, but heightened by the devil, co operating with the malice of the witches at whose instance he did the villainies" Browne's great influence turned the jury, and the women were condemned Dr Norman thinks that belief of this sort in an educated man—a contemporary of Hobbes, Butler and Locke—deprives him of respect from men of science Many lovers of letters who demand thought as well as expression will thank Dr Norman for his very just depreciation of one of the most over rated persons in the history of literature

Death of Dr Cranny

Yet another of Dublin's best known surgeons has died Within the last twelve months no less than five—Croly Smyly, Meldon, Hayes, Cranny—living within a stone's throw have been removed by death Dr John Joseph Cranny, as a young man, was assistant master in the Rotunda Hospital, but of late years had devoted himself altogether to surgery, and for many years before his death was on the surgical staff of Jervis Street Hospital For some years past he had been in bad health, but his death came nevertheless as a shock to his many friends

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Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish his name will be faithfully observed

CONTRACT PRACTICE

A physician of West Virginia writes us in regard to contract practice and states that he has never been satisfied that it was an altogether ethical practice for a reputable practitioner to engage in This system is much in vogue in my locality and throughout the mining section of our state The company or contract physician at the mines agrees for the sum of 50 cents per month for single men and $1 00 per month for men with families to furnish them the necessary medicines and medical and surgical attention The companies hold back out of the wages of their employes the above-mentioned amounts and turn it over to their physician, less 10 or 20 per cent for collecting He goes on to say that this system might be considered a blessing to a very improvident class of people but I have always thought it was prostituting the practice of the profession too far It seems to me it would be more in keeping with the dignity of our profession to let them call on whom they please when needed and pay accordingly Your opinion in the Queries and Minor Notes column would be appreciated

ANSWER.—From a professional standpoint nothing good can be said for the so-called contract practice to which our correspondent refers. Those who undertake it cheapen the public estimate of our profession In a few instances county societies have adopted by laws against the practice declaring it to be unprofessional conduct It would not be a bad thing for the profession if all county societies would do likewise For the man who undertakes contract practice there is "nothing in it —no future no satisfaction no adequate compensation nothing attractive A strike cuts it short a corporation shares the income without adequate pretext. Analyzed the practice is merely a poorly modified form of health insurance or as our British confrères call it, club practice ' The method outlined above which is the one usually followed, is bad The doctor sells himself cheap the employes get what they pay for—and no more A much better method not so profitable to the corporation nor so degrading to medicine would be the creation of a relief fund by an assessment on the employes collected monthly by the company without charge Then a minimum but fair scale of fees for definite services should be agreed on and the physician paid accordingly each employe to select whomsoever he pleases. Of course in time of epidemics or disaster the assessment would increase and in healthy periods would recede but this could be equalized by an average assessment to cover all conditions It is high time that our profession insisted on the universal adoption in corporation or company practice of some such plan as this, and then see to it that no recognized physician underbids his fellow This is by no means Utopian Some corporations have voluntarily adopted a plan similar to this contributing regularly themselves to the fund and the result has been satisfactory We wish that this matter might be taken up by county societies that are affected

LIQUOR FERRI ALBUMINATI

A correspondent calls attention to an abstract on page 1121 of THE JOURNAL April 26, 1902 in which an author is quoted as saying that the standard liquor ferri albuminati of the Norwegian Pharmacopeia is the best means of administering iron and desires to know the formula and the method for its preparation

ANSWER —There is no formula for this preparation in the Norwegian Pharmacopeia There is a formula in the Danish Pharmacopeia (1893) but it is an exceedingly poor one The latest Swedish Pharmacopeia (1901) gives the following excellent formula Take of by weight in grams

Dried egg albumin	40
Solution sodium hydroxid	5
Solution ferric chlorid (50 per cent)	120
Glycerin	10
Alcohol	100
Cinnamon water alcoholic 10 per cent	150
Aromatic tincture	2
Distilled water to make	1000

The egg albumin is dissolved by shaking in a mixture of 2 grams of the soda solution and 1 000 of water heated to 50 C after standing 24 hours the solution is decanted and strained then warmed to 50 C is slowly poured with constant stirring into a mixture of the ferric chlorid solution and the water The resulting precipitate is collected and washed with tepid water till the washings acidified with nitric acid are only slightly opalescent with silver nitrate allowed to drain and then mixed with 60 of water to which the remaining " grams soda solution has previously been added The mixture is then heated on the water bath to 80 C and allowed to cool when the alcohol cinnamon water and aromatic tincture are added together with water to make 1 000 grams The solution represents 4 per mille iron It must be kept in bottles protected against light

PHYSICIANS CARDS

FREDERICKTOWN OHIO Sept 5 1904

To the Editor —Please inform me through Queries and Minor Notes' the proper form for cards for medical men—not for business but for social purposes

E. V A.

ANSWER —This is wholly a matter of individual taste The following forms are merely suggestive, but are acceptable anywhere

DR JOHN DOE

JAMES JOHNSON M D
2735 INDIANA AVE

DR ALBERT SMITH
65 Pennsylvania Ave NEW YORK CITY

OSCAR O JONES, M.D,
NEW ORLEANS

The above forms are social only Business cards may properly present office and residence addresses, telephone numbers and office hours

EXAMINATION OF MILK.

RADCLIFFE IOWA Sept. 14 1904

To the Editor —Will you please inform me where I can find Babcock's Method of Examination of Milk or state how the percentage of fat is obtained by him?

HANS PETERSEN A B M.D

ANSWER.—Send for eighth Report of the Wisconsin Agricultural Experiment Station Madison, Wis

ABSENCE DOES NOT INVALIDATE LICENSE

De Forest, Wis Sept 10, 1904

To the Editor —I graduated from the College of P and S, Chicago, in 1886, obtained a medical license and practiced part of the same year in Chicago but not since Would the same license permit me to legally practice in Illinois now? J H B

Answer —Yes

Marriages.

Lewis C Dow, M D, to Miss Alice Lillie, both of Marion, Iowa, September 19

William J Awty, M D, Moorhead, Minn to Miss Ethel Ford of Charleston, Ill

Ralph Clinton Cupier, M D, to Miss Isabella Lukin, both of Chicago September 1

C Graham Dold, M D, to Miss Linda Peyton Manly, both of Lexington, Va, September 7

Murdoch Bannister, M D, to Miss Keola Winona Williams, both of Ottumwa, Iowa, September 7

Garland Lightfoot Morris, M D to Miss Marie Louise Rice at Manchester, Va, September 7

James Clagett Robertson M D, to Miss Katherine I Groppel, both of Baltimore, September 14

Joseph L Abeln, M D, New Vienna, Iowa, to Miss Anna Luthmers of Dubuque, Iowa, September 6

Howard B Hamilton, M D, Ainsworth Iowa, to Miss Olive McClenahan of Monmouth, Ill, September 21

Martin L Brookshier, M D, Grymont, Ill, to Miss Josephine Beier of Weldon, Ill, September 7

Horace Wardner Eggleston, M D, to Miss Mable May Dunn, both of Binghamton, N Y, September 8

James McCann Stoddard, M D, Kennard, Ind, to Miss Ruby Eunice Palmer of Anderson, Ind, September 7

A Bernard Kuhl, M D, Walnut, Iowa, to Miss Elizabeth Munchrath of Davenport, Iowa, September 12

Samuel W Huston, M D, Perry, Iowa, to Miss Elizabeth J Owen of Columbus Junction, Iowa, September 13

William Dunn Powell, M D, Harrodsburg, Ky, to Miss Jane Cecilia Wise, at Leesburg, Va, September 3

Raymond V Glann, M D, of Apalachin, N Y, to Miss Amelia Mewshaw, at Glen Burnie, Md, September 4

David Este Weatherhead, M D Cincinnati, to Miss Clara Virginia Yates of Covington, Ky, at Chicago, September 8

Justin Frank Grant, M D, Morgantown W Va, to Miss Emily Jenks Bray of Boston, at Wilton, N H, September 7

George Ketcham Hagaman, M D, North St Paul, Minn, to Miss Mary Wilson Fagundus of Minneapolis, September 14

William H Hudson, M D, Atchison, Kan, to Miss Esther L Shreve of Chatham, Ont, at Kansas City, Kan, September 5

William Bay Stoker, M D, Harvard, Iowa, to Miss Malisse Helen Shadley of Belknap, Iowa, at Shenandoah, Iowa, September 2

Deaths.

Alexander Trent Clark, M.D Medical College of Virginia, Richmond, 1869, for many years chairman of the Halifax County Board of Health, and once a member of the State Board of Medical Examiners, died at his home in South Boston, Va, September 10, after an illness of several months, aged 62

William L Buechner, M D University of Giessen, Germany, 1853, one of the oldest practitioners of Youngstown, Ohio, and a founder of the City Hospital, was drowned, September 11, in a runaway accident near Youngstown, in which his horse plunged over an embankment and into a ravine, aged 73

Charles M Baker, M D Transylvania University Medical Department, Lexington, Ky, 1843, for many years a practitioner, and twice mayor of Henry, Ill, died at the Illinois Western Hospital for the Insane, Watertown, of which he had been an inmate for several years, September 3, aged 82

Martin S Kittinger, M D College of Physicians and Surgeons in the City of New York, 1853, surgeon with the Army of the Potomac during the Civil War, some time president of the Niagara County Medical Society, died at his home in Lockport, N Y, September 11, after a long illness, aged 77

Edward Payson Buffett, M D College of Physicians and Surgeons in the City of New York, 1857, for many years visiting surgeon at Christ's Hospital and the City Hospital, Jersey City, N J, died at his home in that city, September 9, from heart disease, after an illness of seven months, aged 70

John Cascaden, M D College of Physicians and Surgeons of Ontario, Toronto, 1866, at one time representative for West Elgin in the Ontario Legislature, died at his home in Dutton Ont, August 31, after an illness of three months, aged 64

James McCortney, M D Cleveland Medical College, 1853, one of the oldest physicians of Davenport, Iowa, surgeon in the Army during the Civil War, died at the home of his daughter in Chicago, September 8, from cystitis, aged 79

Felix E Schilling, M D Tulane University, New Orleans, 1903, of Collins, Miss, died at the South Mississippi Infirmary, Hattiesburg, September 12, from typhoid fever, after an illness of four weeks, aged 31

George M Kellogg, M D Medical College of Ohio, Cincinnati, 1852, formerly of Carthage, Ill, and a lecturer for several years in Keokuk Medical College, died at his home in Pasadena, Cal August 18, aged 73

A W Butler, M D University of Tennessee, Nashville, 1903 formerly interne at the Nashville City Hospital, died suddenly from nervous collapse, September 6, at his home in Nashville aged 24

Charles Hinkle, M D University of Louisville, 1861, surgeon in the Confederate service during the Civil War, died at his home in Hinkleville, Ky, September 13, after a long illness, aged 66

Harvey C Chappelear, M D Cincinnati College of Medicine and Surgery, 1871, died at his home in Mount Sterling, Ohio, September 14, after a long invalidism, from asthma

James R Kelch M D Starling Medical College, Columbus Ohio, 1864, assistant surgeon of the 155th Ohio Volunteer Infantry in the Civil War, died suddenly at his home in Tarlton Ohio, September 4, from heart disease, aged 70

Richard J Ough, M D University of the Queen's College, Coburg, Ont, 1869, supreme physician of the United Order of Foresters, died at his home in Chicago, September 11, aged 65

Emery F Redfern, M D Ohio, of South Perry, assistant surgeon in the 90th Ohio Volunteer Infantry in the Civil War, died recently, and was buried at South Perry, September 4

William M Gough, M D University of Louisville, 1848, surgeon in the Confederate service during the Civil War, died at his home in Los Angeles, Cal, September 7, aged 79

Christine Anderson, M D University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1888, died at her home in Detroit, Mich, August 29, aged 40

Charles Walton Chaffee, M D College of Physicians and Surgeons of Toronto, 1883, died at his home in Toronto, Ont, May 26, from pneumonia, after a short illness

H H L Yeargan, M D Transylvania University Medical Department, Lexington, Ky, 1846, of Barefield, Tenn, died at his home in that place, September 5, aged 84

Alfred L Keene, M D Jefferson Medical College, Philadelphia, 1888, died at his home in Lancaster Pa., September 6 from heart disease, aged 43

P W Crum, M D, died at Borgess Hospital, Kalamazoo Mich, six months after a fall in which he fractured his hip September 2, aged 91

J Maude George, M D Woman's Medical College, Philadelphia, a medical missionary in China, died at her station in Macao, September 4

S Sylvester, M D University of the Victoria College Coburg, Ont, 1878, died suddenly at his home in Montreal, April 2, aged 46

Isaac Pankake, M D Medical College of Ohio, 1886, a member of the American Medical Association, of Frankfort, Ohio, died recently

Robert S Cheffey, M D College of Physicians and Surgeons of Ontario, Toronto, 1871, died at Toronto, September 11 aged 77

George L Smith, M D Jefferson Medical College, Philadelphia, 1850, died recently at his home in Groveport Ohio aged 79

Paul E Malmstrom, M D University of Lund, Sweden, 1890, died at his home in Kenosha, Wis, September 13, from heart disease

James K. Griffin, M.D Columbus (Ohio) Medical College, 1878, died suddenly at his home in Fitzgerald, Ga, September 7

Frank M Reasner, M.D Cleveland Medical College, 1865, died at his home in Los Angeles, Cal, September 11, aged about 70

Francis X. Spranger, M D Ohio, 1864, died suddenly at his home in San Jose, Cal, from apoplexy, September 3, aged 61

Thomas E Morris, M D McGill University, Montreal, 1899, died at his home in St John, N B, September 8, aged 30

Willis Duff Green, M D Medical College of Ohio, Cincinnati, 1844, died recently at his home in Mount Vernon, Ill

Albert M Loop, M.D, a member of the Medical Society of the State of Pennsylvania, died recently at Nelson, Pa

John T Smith, M D, died at his home in Cedar Rapids, Iowa September 2, after an invalidism of ten years

W E McBryde, M D, died at his home in Colmesneil, Texas, September 5, from congestion of the brain

William H Colvin, M.D Illinois, 1896 died at his home in Chicago, July 6, from pneumonia, aged 34

John H Stork, M.D Kentucky School of Medicine, 1888, died at his home in Stendal, Ind, September 6

Albert D Moxley, M D New York, 1877 died suddenly at his home in Jefferson, N Y, August 1

A. S Hayhurst, M D Indiana, 1887, died recently at his home in Evansville, Ind after a long illness

Thomas S Lackey, M D, 1849 died at his home in Mayfield Ky, September 12 aged 82

James A. Taylor, M D, died at his home in Wayne W Va September 6

Book Notices.

ELEMENTS OF GENERAL RADIOTHERAPY FOR PRACTITIONERS By Dr Leopold Freund Vienna Translated by G H Lancashire M D Brux. M R C S Eng L R C P Lond Assistant Physician to the Manchester and Salford Hospital for Skin Diseases With 107 Illustrations in the Text and One Frontispiece Cloth Pp 538 0 Price $5 00 New York Rebman Co 1904

RADIOTHERAPY PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS The Medical and Surgical Applications of Radiology in Diagnosis and Treatment By Charles Warren Allen M.D Professor of Dermatology in the New York Post Graduate Medical School With 131 Engravings and 27 Plates Cloth. Pp 618 Price $4 50 net Philadelphia and New York Lea Brothers & Co

The rapidly growing literature on the medical uses of the various forms of radiant force, some of which we have but recently become acquainted with, receives here important additions Freund's work must be regarded as authoritative and fundamental, especially in so far as concerns the essential scientific principles of radiology The introductory chapters on physics are more exhaustive than in the other books on radiotherapy The technic of the practical application of these forces is also comprehensively described. A fully illustrated supplement contains adequate descriptions of the various instruments necessary for using high frequency currents *x* rays, heat and light rays The index is full and a complete list of the authors quoted, and the page where each may be found, together with the corresponding references, is given The indications for and results to be expected from the various radiotherapeutic measures are discussed on the basis of the existing literature, but we miss any statements concerning the diagnostic value of *x* rays We believe we may safely recommend this book to any one who desires to know the fundamental physical laws underlying radiotherapy, as well as its practical application It should be remembered that Freund is the man to whom we owe more than to any other the introduction of the Roentgen ray in therapy The work gives every impression of having a commensurate basis of personal theoretical and practical work on the part of the author

Dr Allen's book deals with the *x* ray light and high frequency currents Here the therapeutic and diagnostic aspects are given predominance, the nature of and laws governing the forces employed, receiving comparatively little attention It has seemed to the reviewer that there is an unnecessary diffuseness in some of the parts dealing with the therapeutic results of the *x* ray Surely much of the information here given in regard to the individual cases cited might well have been condensed into smaller space Both the works are adequately illustrated, Freund's especially from the side of physics and instrumentation, Allen's from the clinical The suggestion may be allowed that the field for the works of the kind represented by these two books is now well covered by these and other recent publications, it would, therefore, be better if as much energy and attention as possible were given to investigation of the many and important problems of theoretical and fundamental nature that are arising as a result of the introduction of the physical forces considered into medicine

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science By Various Writers A New Edition Completely Revised and Rewritten Edited by Albert H Buck M D New York City Volume VIII Illustrated by Chromolithographs and 435 Half tone and Wood Engravings Cloth Pp 784 Price $7 00 per volume New York Wm Wood & Co 1904

This volume completes this issue of the Reference Handbooks Included in this volume is an appendix which contains articles that from one cause or another were omitted from their regular position in the alphabetical order A most complete index occupying nearly two hundred pages, three columns to a page, closes the work This index will be found of great value, as it makes reference to any particular subject easy In the ordinary works arranged alphabetically as is this one, it is not common to go to the expense and trouble of getting out a detailed index as has been done here but, if not necessary, it is certainly very convenient

In our notices of the volumes as they came out, we have repeatedly spoken of the excellent manner in which the subjects were covered We have also called attention to the fact that while the handbook is published as a revised edition of a work which came out some twenty years ago, it is in reality a new book A few articles appear unaltered, a few others are modified but slightly from those appearing in the former edition, but the great bulk have been entirely rewritten, and many subjects appear that were not treated in the former edition The work is a complete encyclopedia of modern medicine, for so far as we are able to discover, nothing that belongs to such a work is omitted As a rule, the topics are considered in an exhaustive manner, and if published in individual books not a few of the articles would be accepted as complete monographs on the subjects treated The editor is to be congratulated on the good judgment displayed in allotting the amount of space to be given to a given subject, not an easy matter when the whole field of medicine had to be covered He is to be especially congratulated on his selection of the writers for the different subjects In nearly every instance the one selected is an authority on the subject on which he writes, thus guaranteeing reliability The publishers are to be congratulated on their liberality in illustrating the work and on presenting it in such a satisfactory manner, from a mechanical and typographical point of view This Reference Handbook is a library of itself, at least, it makes a good foundation for a complete library

ADENOIDS By Wyatt Wingrave M D Physician and Pathologist, Central London Throat and Ear Hospital Cloth Pp 128 Price $1 00 net Chicago W T Keener & Co 1904

In this little book of 194 pages are discussed clearly the various phases of nasopharyngeal adenoids, a subject in which the medical profession has taken an increasing interest, since the attention was definitely directed thereto by Meyer in 1868 Adenoids are described thoroughly from the anatomic etiologic and clinical points of view The operative treatment is given with adequate detail and a special chapter by Holten George deals with the subject of anesthetics. We can recommend the book to the general practitioner as a trustworthy guide to a thorough understanding of the subject with which it deals

Miscellany.

A Charity Patient —A French exchange relates as an anecdote that a woman was given $600 by her husband to pay the expenses of an operation which her physician had declared necessary She disguised herself as a poor woman and applied to the free public hospital, giving a false address, after having hired the persons at the address given to testify in her favor if questions were asked She then bought a jewel with the $600 which should have paid for her operation

Growth of Bacteria in Salt Solutions —F Lewandowsky of Strasburg tested a micrococcus and a mesentericus from a vegetable and reports that a 25 per cent solution of table salt inhibited the growth of the bacteria On the other hand, they continued to grow apparently unaffected in saturated solutions of potassium nitrite In a communication to the *Archiv f Hygiene,* xlix, No 1, 1904, he ascribes this difference in the action of the solutions to the comparative insolubility of the nitrate and the difference in the molecular concentration and of the specific ions in the two solutions

Intoxication from Unripe Tomatoes —A French physician reports in the *Lyon Med*, August 21, some cases of illness traced to the eating of tomatoes not perfectly ripe The discovery of fragments of the tomatoes was the only hint as to the cause of the trouble in the first case The dilatation of the pupils in all the sick members of the family was a noticeable symptom As the tomato belongs to the same family as the potato, the intoxication may have been like the solanum poisoning sometimes observed after ingestion of unripe or spoiled potatoes Recovery was rapid after emptying the stomach

Automatic Compressive Dressings— The *Gazette Med de Paris* for August 27 contains an illustrated article by P Mantel of Saint Omer describing his method of applying a dressing to obtain automatic compression of the parts without straps of any kind It is shown applied to the head and to the stump after an amputation The gauze or cotton are applied as usual Then four or more rather wide strips of gauze are placed flat on the vertex or the bottom of the stump, crossing them at right angles to each other An assistant pulls on the ends of these strips, and another longer strip of gauze is wound around over them from the periphery toward the center When this is all in place the loose ends of the crossed strips are brought down over the wound bandage and fastened together flat below A dressing thus applied to the head does not require any further support, but exerts great pressure on the top of the skull, without the necessity for any straps under the chin or elsewhere

The Public Service.

Army Changes

Memorandum of changes of station and duties of medical officers U S Army week ending Sept 17 1904

Field Peter C, asst surgeon granted thirty days leave of absence

Bratton Thos. S asst surgeon relieved from duty at Fort Sam Houston Texas and ordered to Chicago for duty as attending surgeon and examiner of recruits

Purviance Wm E surgeon relieved from duty as attending surgeon and examiner of recruits Chicago, and ordered to Manila P I for duty

The following named asst surgeons are relieved from duty at posts designated after their names and will report on Oct 1 1904 to Col Charles L Heizmann asst surgeon general president of the faculty Army Medical School Army Medical Museum Building Washington D C, for a course of instruction at school Davis Wm R. San Francisco Owen Leartus J Fort Myer, Va , Zinke Stanley G, Fort Riley Kan Cutler, Robert M Fort Jay, N Y , Weed Frank W Fort McHenry Md Wickline Wm A Fort Ethan Allen, Vt Brown Henry L Columbus Barracks, Ohio Bally, Howard H Plattsburg Barracks N Y Humphreys Harry G Fort Totten N Y Freeman Paul L Fort Slocum N Y

Roberts Wm M, asst. surgeon granted twenty one days' leave of absence

Tefft Wm H, asst surgeon, left Fort Snelling, Minn, for duty at Camp Lakeview Minn

Barney Chas N asst surgeon left from duty at Gainesville, Va on twenty days' leave of absence

Thornburgh R M asst surgeon reports at U S Army General Hospital Washington Barracks D C for temporary duty from Manassas Va

Rockhill, E P, asst surgeon, order for temporary duty at Fort Miley, Cal, revoked

Chase A M, contract surgeon reports his return to Fort Reno, Okla, from three months leave of absence

Burr, R T, contract surgeon, granted leave of absence for three months

Bailey, Edward B, contract surgeon, granted leave of absence for one month

Griswold, W Church, contract surgeon, granted leave of absence for one month

Jones, John F, contract surgeon, granted fifteen days' leave of absence

Marshall, John S, supervising and examining contract dental surgeon, leave of absence extended ten days

Treuholtz C A, contract surgeon, granted leave of absence for two months

Shellenberger James E contract surgeon, granted leave of absence for one month and fifteen days

Navy Changes.

Changes in the medical corps U S Navy for the week ending Sept 17, 1904

Green, E H medical inspector, ordered to the Navy Yard, New York, October 1

Bertolette D N, medical inspector, detached from duty as a member of the naval retiring board and of the naval and medical examining boards, Washington, D C, and ordered to resume other duties

Price A F, medical director detached from the Navy Yard New York, October 1, and ordered to duty as a member of the Naval retiring board, Washington D C

Bieck, F W, pharmacist ordered to the Naval Hospital New York

Marine-Hospital Service

List of changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Sept 14 1904

Purviance George, asst surgeon general granted extension of leave of absence for one month from Sept. 1, 1904, on account of sickness

Vaughan G T asst surgeon general detailed to represent the service at meeting of the Association of Military Surgeons to be held at St Louis, Oct 10 15 1904

Peckham C T surgeon, granted leave of absence for one month from October 8

Wertenbaker C P, surgeon detailed to represent the service at the meeting of the Association of Military Surgeons, to be held at St Louis Mo Oct 10-15, 1904

Wickes, H W P A surgeon, directed to proceed to Wilmington Del for special temporary duty

Parker H B P A surgeon granted leave of absence for one month from October 1

Robertson H McG, asst surgeon temporarily relieved from duty at Stapleton N Y and directed to proceed to Washington, D C and report at the Bureau for temporary duty

Rucker W C asst. surgeon granted leave of absence for four three days from September 8

Goldsborough B W, A A surgeon, granted leave of absence for three days from September 8

Horsey, J L, A A surgeon granted leave of absence for fourteen days from September 10

Mason W C A A surgeon granted leave of absence for five days from September 19

Stevenson J W A A surgeon, granted leave of absence for seven days from September 3 1904 on account of sickness

Tuttle Jay A A surgeon, granted leave of absence for seven days from September 12

Goodman F S pharmacist, granted leave of absence for three days from Sept 3 1904 under Paragraph 210 of the Regulations

Scott, E B pharmacist granted leave of absence for twenty five days from September 19

Slough Chas pharmacist, Department letter of Aug 3 1904 granting leave of absence for thirty days from August 10 amended to read nine days from August 17

RESIGNATION

Kolb W W pharmacist resigned to take effect Sept 1 1904

Health Reports

The following cases of smallpox yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended Sept 16, 1904

SMALLPOX—UNITED STATES

Florida At large Sept. 3 10 19 cases
Illinois Chicago Sept 3 10 1 case
Indiana Kokomo Sept 3 10 1 case
Louisiana New Orleans, Sept 3 10, 1 case
Massachusetts Sept 3 10 Lowell 1 case North Adams, 2 cases, 1 death
Michigan Grand Rapids Sept 3 10 1 case at 12 places Aug 27 Sept 3 present
Missouri St Louis Aug 27 Sept 10 5 cases 2 deaths
Ohio Zanesville Aug 6 13 1 case
Pennsylvania Philadelphia Sept 3 10, 1 case, 1 death
Tennessee Nashville Sept 3 10 2 cases

SMALLPOX—FOREIGN

Austria Hungary Prague Aug 20-27 1 case
Brazil Bahia July 31 Aug 13 22 cases 1 death
Canada Belleville Aug 29 Sept 12 7 cases Winnipeg Aug 13 27 2 cases
China Shanghai Aug 4 11 1 death
France Paris, Aug 20 27 7 cases

Great Britain and Ireland Aug 20 27 Dublin 1 case Leeds 1 case Newcastle-on Tyne 7 cases Nottingham, 2 cases West Hartlepool 2 cases
India *Bombay* Aug 9 16 1 death
Italy *Palermo* Aug 20-27 14 cases, 8 deaths
Mexico City of Mexico Aug 21 28 1 case 4 deaths
Russia Moscow Aug 6-20 15 cases, 2 deaths, St Petersburg, Aug 13 20 1 case, 4 deaths Warsaw July 31 Aug 6, 22 deaths
Turkey Alexandretta, Aug 13-20 3 deaths

YELLOW FEVER.

Ecuador Guayaquil, Aug 8 15 1 death
Mexico Aug 27 Sept 3 Coatzacoalcos 4 cases, 1 death Vera Cruz, 14 cases.

CHOLERA.

India Bombay Aug 9 16, 33 deaths Calcutta, Aug 6 13, 4 deaths

PLAGUE.

Africa Cape Colony, July 23 30 2 cases
Brazil Bahia. Aug 5 18 17 cases 7 deaths
Egypt Aug 6-13 4 cases 3 at Alexandria
India Bombay Aug 9-16 44 deaths Calcutta, Aug 6-13, 3 deaths Karachi Aug 7 14, 3 cases 2 deaths.
Mauritius June 17 July 7, 6 cases 5 deaths
Peru Callao Aug 13, 1 case Aug 17 Colan reported La Sullana, reported Sechura, reported July 31 Aug 6 Lima, 11 cases 5 deaths Salaverry, 2 cases, 1 death Payta 4 cases 2 deaths.

Society Proceedings.

COMING MEETINGS

American Medical Association Portland, Ore, July 11 14 1905

Medical Society of the State of Pennsylvania Pittsburg September 27 29
Colorado State Medical Society Denver October 4-6
Idaho State Medical Society Lewiston, October 6-7
Tri State Medical Society of Alabama, Georgia and Tennessee Chattanooga, October 12 14
Assn of Military Surgeons of the U S St. Louis, October 10 15
Mississippi Valley Medical Association Cincinnati October 11 13
Vermont State Medical Society Rutland, October 13 14
New York State Medical Association New York October 17 20
Medical Society of Virginia, Richmond, October 18-21

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Seventeenth Annual Meeting, held at St Louis,

Sept 13 16, 1904

Under the presidency of Dr Walter B Dorsett, St Louis

Addresses of welcome were delivered on behalf of the St Louis Obstetrical and Gynecological Society by Dr Louis E Newman, and on behalf of the city and the *exposition* by David R. Francis, president of the Louisiana Purchase Exposition The responses to these addresses of welcome were made by Dr L. H. Dunning, Indianapolis, and Dr Herman E Hayd, Buffalo, N Y The meeting was very well attended. The papers were of a high scientific character and the discussions on them full and spirited. The association held only one session a day, in the morning, thus giving the members and their guests an opportunity to visit the exposition in the afternoons and evenings

Officers for the Ensuing Year

The following officers were elected for the ensuing year President, Dr H W Longyear, Detroit, vice presidents, Dr D Tod Gilliam, Columbus, Ohio, and Dr John Young Brown, St Louis, secretary, Dr William Warren Potter, Buffalo, N Y (re elected) treasurer, Dr X O Werder Pittsburg (re elected)

The association will meet in New York City in 1905

(*To be continued*)

AMERICAN ROENTGEN RAY SOCIETY

Fifth Annual Meeting, held in the Louisiana Building, St Louis, Sept 9 13, 1904

The President Dr James B Bullitt, in the Chair

Election of New Officers

The following officers were elected President, Charles Lester Leonard Philadelphia vice presidents Weston A Price Cleveland, Henry Hulst, Grand Rapids, Mich , Gordon G Burdick, Chicago, secretary, Russell H Boggs, Pittsburg, treasurer, Leavitt E Custer, Dayton, O , member of the executive committee, George C Johnston, Pittsburg The following committees, to be appointed later by the president, were provided for Committee on Histologic, Physiologic and Bacteriologic Influence of the *X* Ray, Committee on Technic of Radiotherapy, Committee on Technic of Radiography The constitution was amended to provide for a Board of Censors, said board to consist of the three last presidents, Drs George P Girdwood, Montreal, Canada, A W Goodspeed, Philadelphia, and James B Bullitt, Louisville, Ky The place of next meeting will be either Detroit or Cleveland, to be determined later by the *Executive Committee*

The election of officers was followed by the president's address

Comparison of X-Ray and Surgical Treatment for Tuberculosis

Dr Bullitt put two propositions 1 Is the present surgical treatment of the forms of tuberculosis imminently and entirely successful and satisfactory? 2 What is the probability that the Röntgen ray method of treatment is capable of rendering the treatment of such diseases more rapid and successful? He made inquiry of various operators as to results obtained in the treatment of tuberculosis of long and flat bones, joint structures, tendon sheaths, peritoneum, testicle and lymph glands No mention was made of the length of time that elapsed between the beginning and the end of the treatment, number of exposures made, conditions of the exposures and technic, nor is it stated that some cases get worse rather than better under the *x* ray treatment A possible mortality from *x* ray treatment is out of the question The reports indicate that in some cases at least the tuberculous process can be cut short by exposure to the *x* ray, that a cure can be affected in much shorter time and in diseases of the bones and joints, with much better functional results than is to be expected from the usual surgical methods The Röntgen ray, says the author, is not to be regarded as a perfect method of treatment in tuberculous disease, but may be considered to be of great value The following summary is presented Long and flat bones—Cases treated, 71, cured, 33 per cent , improved, 35 per cent , not benefited, 29 per cent Joints—Cases treated, 141, cured, 38 per cent , improved 37 per cent , not benefited, 25 per cent Tendon sheaths—Cases treated, 27, cured, 70 per cent , improved, 22 per cent., not benefited, 0 7 per cent Peritoneum —Cases treated 32, cured, 40 per cent , improved, 25 per cent not benefited, 35 per cent Testicle—Cases treated, 21, cured 33 per cent , improved, 48 per cent , not benefited, 19 per cent Lymph glands—Cases treated, 226, cured, 35 per cent , improved, 40 per cent , not benefited, 25 per cent Lupus—Cases treated, 616, cured, 68 per cent , improved, 24 per cent not benefited, 8 per cent.

This was *followed* by a *symposium on x ray* in *tuberculosis*

The X-Ray in Tuberculosis and Malignant Diseases.

Dr J D Gibson Denver Colo said that for the treatment of deep seated growths a light made by a powerful machine and capable of great penetration is required.

The X Ray in the Treatment of Pulmonary Tuberculosis

Dr Emil Grubbe, Chicago, has found that the *x ray is particularly* valuable in the acute cases, in which prominent symptoms are loss of appetite, weight and strength, slight rise of temperature, cough and expectoration, but no hemorrhage, and in chronic cases, and that the sooner the treatment is begun the better

The Roentgen Ray in the Treatment of Tuberculosis

Dr J Rudis Jicinsky, Cedar Rapids Iowa, insists *on* an early diagnosis and plenty of fresh air and sunshine as adjuvants of the *x* ray treatment of tuberculosis He uses a tube which has a prolongation from the middle of the *x* ray field proper made of lead glass except the end where the rays emanate, which must be flint glass enabling the rays to emerge at this point, which is laid right against the lesion

The remainder of the tube is enclosed in a special shield This does not endanger the patient, and only the diseased area is rayed Since December, 1902, he has treated 20 cases, 5 were of the hemorrhagic variety and improved in ten weeks and are still doing well, 10 cases were of the fibroid variety, and 3 of them died after six weeks, 2 as the result of intestinal complications and 1 from tubercular meningitis, the remaining 4 are slowly yielding to treatment, 2 cases of mixed infection are gaining steadily in weight Of 6 cases of tuberculosis of the peritoneum, 1 died, and the other 5 are well and have not had a recurrence Of 19 cases of lupus, 16 are apparently cured, and in 3 the treatment was negative In glandular tuberculosis, 8 cases are cured, 6 are benefited, 19 are failures and 4 cases are still under treatment and doing well In tubercular laryngitis he uses the ray as a prophylactic measure only, and 2 cases out of the 8 seemed benefited Eight cases of joint tuberculosis were cured in six weeks, 4 chronic cases were benefited in four months, 2 cases of tuberculosis of the testicle were cured and have not recurred in three months

The X-Ray in Tubercular Adenitis

Dr Max Cushman Rice, Chicago, reported a case of tubercular adenitis in a girl aged 18, who had been operated on five times, the disease recurring again X ray treatments were then given three times a week, ten minute exposures, with a medium vacuum tube, tube distance three inches After the third treatment the glands began to diminish in size and at the end of two months the largest gland was about the size of a bean There was a corresponding increase in weight and improvement in general health The second case, a woman, aged 32, disease of five years standing, was treated with the high frequency current by means of the Tesla coil and static machine, with only slight improvement The *x* ray was substituted, and after five months the glands could scarcely be felt

DISCUSSION

Dr G G Burdick, Chicago, emphasized the importance of not restricting the treatment of tuberculosis to the *x* ray, but to look on the *x* ray as a most valuable agent when used with other remedial agents

Dr George E Pfahler, Philadelphia, suggested that a great many cases of tuberculosis get well without ever seeing a doctor and without ever knowing that they had tuberculosis, a fact of which we must not lose sight when we draw conclusions as to the efficacy of the *x* rays in the treatment of tuberculosis He has had very gratifying results from the use of the *x* ray in the treatment of all forms of tuberculosis In treating tubercular glands, especially those of the neck we should also expose the lung, because most of these cases have some involvement of this organ He never protects anything except the hair and face of the patient

Dr C L Leonard, Philadelphia said that in using the *x* ray we must be governed by a dosage which is known and can be measured and that on this will depend the results that are obtained Its action in tuberculosis is that of an alterative and a stimulant, but we must not depend on that agent alone

Dr E G Williams, Richmond, Va , emphasized the fact that all his patients had improved in general health under the *x* ray treatment One case gained 70 pounds in nine months The *x* ray stimulates metabolism more than any other agent

Dr Henry Hulst, Grand Rapids, Mich , has had good results in the treatment of tuberculosis of glands, joints and peritoneum He has never used it in pulmonary tuberculosis because a perusal of the literature has convinced him that when the *x* ray is used critically no good results are obtained

Dr S Tousey, New York City, reported a wonderful improvement in a case of tuberculosis of the larynx, using the method advocated by Dr Rudis Jicinsky In four months the ulcerations had healed almost entirely He also reported considerable improvement in a case of tuberculosis of the prostate gland which was treated by raying the abdomen and by letting the rays shine into the rectum through a specially constructed tube

Dr C E Skinner, New Haven, Conn , used the *x* ray in three cases of advanced pulmonary tuberculosis, but was unable to perceive any influence whatever in any of the cases

Dr. George C Johnston, Pittsburg, reported similar results His experience leads him to prefer climatic to *x* ray treatment The treatment of tuberculosis under ordinary climatic conditions by means of the *x* ray alone is a failure

This was followed by a symposium on the treatment of malignant diseases

The Treatment of Epithelioma

Dr George C Johnston, Pittsburg, divides his cases, first those in which, owing to location, extent, metastasis, condition of the patient, and various other factors, a cure can not be expected, and, therefore, treatment is purely symptomatic, second, those cases in which the location and other condition are such as to permit of the expectation of a cure He gives daily treatments for the first ten days, unless an undesirable degree of reaction occurs, when the treatments are given at longer intervals After the first ten days treatments are given every third day until the desired results are obtained If the results do not appear, the dose may be increased cautiously, bearing in mind the cumulative tendency of the agent employed The degree of success obtained will be in direct proportion to the experience of the operator, the correctness of his technic, his familiarity with the apparatus used and his ability to distinguish an active from a worthless tube He reported 44 cases of epithelioma about the face The average duration of these cases is four years and eight months, 34 were primary and 10 recurrent cases The average number of treatments in each case was 22 Metastasis occurred in only 3 cases, 30 cases were cured, 8 were benefited 3 recurred, and 3 died

Radiotherapeutic Nihilism

Dr G G Burdick, Chicago, insists on the importance of having a reliable technic which can be followed by unskilled as well as by skilled operators He proposes the following In lupus and other forms of local tubercular involvement, the tube distance should be four inches and the penetration regulated to within half an inch in order to take advantage of the ray of low velocity, which resembles the cathode ray In carcinoma and epithelioma the tube distance should be ten inches and the penetration calculated to reach the center of the growth, producing irritation at least twice, and then increasing the degree of penetration to a high velocity, in order to get cellular degeneration Sarcoma requires a very high degree of penetration, depending on the density of the growth When it is desired to take advantage of the tonic effect of the ray a high tube should be used Where the lethal effect is desired a low tube should be used It must be remembered that the tonic action of the ray is due to its fluorescence, this being understood as a form of motion, and that the lethal effects are the result of chemical radiations All carcinomata which have not ulcerated should be rayed thoroughly before they are removed by operation

The X-Ray Treatment of Sarcoma

Dr Joseph F Smith, Chicago, reported 18 cases of deep seated sarcoma in various organs and tissues in which *x* ray proved a most severe disappointment

The Results of Treatment of Carcinoma

Dr J N Scott, Kansas City, Mo , said that one great advantage of the *x* ray is that it can be applied to large areas and to vital organs, if used with care One disadvantage is the long period of time over which the treatment must be extended All tumors operated on and found to be malignant should have a course of *x* ray treatment, and if at the end of from one to three months no recurrence has set in the patient may be considered as cured, but should be kept under observation

Carcinoma of the Breast

Dr Charles L Leonard, Philadelphia, said that the essential factor of any successful treatment of malignant disease is that it be radical and used early, its severity to be limited only by the patient's general vitality and of the normal tissues that surround the affected area Thorough surgical treatment, wherever consistent with the preservation of the function of life of the area involved should be advocated as the primary treatment. If any aid is to be expected from Röntgen ray treatment it must be commenced immediately after the surgical operation, before the patient is out of bed The healing of wounds and the closing of sinuses are hastened by Röntgen ray treatment. A careful study of the results obtained by this treatment in malignant disease of the breast shows that it has been most affected where it supplements rather than supplants operation In inoperable and hopeless cases it affords relief from intolerable symptoms, lengthens life and offers the patient the most The best results are obtained in scirrhus, in fact, the only favorable results of primary treatment have been obtained in these cases Metastasis can be influenced and held in check by the Röntgen ray treatment In all other cases surgical removal of the breast and the adjacent lymph glands is always indicated Technic and experience, as well as local and constitutional treatment, are essential to success in the treatment of malignant disease of the breast He reported 26 cases treated since 1900 Of this number, 12 are dead, 2 have not been heard from, and the remainder are living Two had preparatory treatment, and they have lived eighteen and sixteen months respectively One had a primary inoperable scirrhus, 4 had recurrences, in 3 the recurrence has disappeared entirely and has not recurred in twenty one, ten and four months respectively In 1, massive recurrence followed immediately after operation Of the cases receiving post-operative *x* ray treatment, 4 are living and are free from recurrence, nineteen, fourteen, twelve and seven months after operation Of the 12 patients who died, all except 3 were benefited when first seen Two of them had post operative treatment, but died eighteen months after the operation. He considers the results very encouraging and urges further study and observation in the treatment of malignant disease of the breast with the *x* ray

Variations of Radiotherapeutic Technic.

Dr. Russell H Boggs, Pittsburg, advocated the employment of more accurate methods and suggested that some perfect results that are reported in the treatment of tuberculosis or malignant disease may be due to the perfect technic employed by the operator or to a wrong diagnosis He insisted that the most important point is the tube distance, because the intensity of the light varies inversely as the square of the distance For skin lesions there is no occasion to place the tube more than from 4 to 6 inches from the skin, but that is not the case in the treatment of deep seated lesions Another important point is that the *x* ray should be of large volume when deep lesions are to be treated. A low vacuum tube at a distance of from 12 to 16 inches will penetrate the tissues effectively With reference to cancerous disease, he spoke of cases of small epitheliomata situated on the face, which can be cured in from 6 to 8 weeks, depending on the vitality of the patient. In cases in which the disease appears to be localized, the tumor should be removed at once and followed up by *x* ray treatment Cases having considerable glandular involvement should be treated for a time with the *x* ray, then operated on, and treated again with the *x* ray Usually, twenty treatments before and twenty after operation are all that are required. Those cases that are considered inoperable should be treated by the *x* ray because of its inhibitory action on the disease and for the comfort it affords the patient All cases should be given tonic treatment as well. Alcoholics, syphilitics and anemic patients in general do not as a rule, improve rapidly Such cases should receive individual specific medication in addition to the *x* ray treatment

Cases of malignant disease were reported by the following George C Johnston, C L Leonard, J F Smith J N Scott, G G Burdick, R. H Boggs, W W Johnson, M K Kassabian, C F Pfahler and E G Williams

The Compression Tube in Skiagraphy of Calculi.

Dr. Henry Hulst, Grand Rapids, reported the good results he has obtained from the use of his compression tube, a modification of the Albers Schoenberg *"compressions-blende,"* in skiagraphy of fat people

The Interpretation of Radiographs of the Chest

Dr P M Hickey, Detroit, Mich, said that in order to secure the best results perfect mastery of the tube and employment of stationary secondary current and the use of developers which will secure the greatest detail and contrast are necessary It is also necessary that the observer should be experienced in the reading of these negatives The exposure should be made as rapidly as possible with a view to securing the greatest amount of contrast To interpret these negatives we should know the position of the target of the tube with reference to the area exposed, and a suitable illumination of the negative by means of the illuminating box is essential Furthermore, careful distinction should be made between physiologic and pathologic conditions, such as a large or vigorously pulsating aorta and an aneurism of the aorta

The X-Ray in Injuries Near the Wrist.

Mr. M Wilbert, Philadelphia, called attention to the fact that fractures of the lower end of the radius are frequently complicated by other more or less extensive injuries, and that the other bones entering into the formation of the wrist joint are also subject to fracture Fractures at or near the wrist joint are extremely common and vary considerably, both in location and direction, and in the nature and extent of the injuries to other structures Of the 26,011 cases of fracture rayed by him 660 were at or near the wrist joint When skiagraphing a joint it is important to include as much of the surrounding tissues as possible so that any fractures near the joint may be detected In fracture of the wrist joint, fracture of the carpal bone is very common

The Value of Stereoscopic Skiagraphy

Dr M K. Kassabian, Philadelphia, discussed this subject and exhibited an apparatus which is used for stereoscopic examination.

Diagnosis of Brain Tumors and Softening

Dr George E Pfahler, Philadelphia, exhibited a series of skiagraphs made for the purpose of diagnosing and locating brain tumors and abscesses of the brain. He said that he would never take the responsibility of an operation on the brain purely on skiagraphic evidence On the other hand, all cases of brain lesion should be examined by the *x* ray in order to confirm or add to the clinical evidence

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Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer]

Heart Disease

DIET

Schott, in the *Lancet*, discusses the diet in heart affections, and gives the following two rules 1 Patients must avoid everything which excites the action of the heart, and 2, they must shun everything which embarrasses the heart's action The substances which most readily cause excitation of the heart are coffee, strong tea, and alcoholic liquors These stimulants should be avoided, even in cases where there has been habitual use of them, except in cases where the withdrawal would result in collapse In these cases, which have been accustomed to the use of alcohol, it is best to give Rhine wine Moselle, or Bordeaux, which has been matured for from eight to ten years If it is found necessary to administer other than the light wines, Cognac or whiskey mixed with plain water may be given No aromatics should be given with the alcohol because of the danger of irritability of the stomach leading to anorexia and insomnia Water and milk are the beverages to be preferred Cocoa deprived of its fat is good, but chocolate does not usually agree If it is desired to give fats pure cream or cream mixed with milk may be given To avoid embarrassment of the heart too hearty eating of foods which produce flatulence must be interdicted They may prove harmful in three ways 1 The diaphragm is pressed up against the lungs so that respiration is impeded and dyspnea results 2 The diaphragm is pressed up against the heart, forcing it upward and outward so that its action is carried on with greatly increased effort 3 Intra-abdominal pressure is increased and the abdominal vessels are compressed Therefore, all effervescing beverages, carbonated waters, champagne, or beer usually disagree with patients suffering from heart disease

INTERVALS OF FEEDING

On account of the necessity of avoiding overloading of the stomach, it is best that these patients should eat at three hour intervals, and the last meal of the day should be taken from two to two and one half hours before bedtime, otherwise there is danger of disturbed sleep

KINDS OF FOOD

Soups should be taken sparingly, chiefly because their nutritional value is too low in proportion to the bulk A few tablespoonfuls only should be recommended New bread and freshly baked cakes must be avoided Toast and zwieback or crust of rolls may be allowed Of the vegetables, those difficult of digestion and producing flatulence must be avoided, as beans, peas, lentils, sauerkraut, red cabbage, leeks, onions, garlic and celery Potatoes, boiled or in form of purées, are to be preferred to the less digestible baked potatoes Turnips and carrots may be eaten when young Other fresh and easily digested vegetables can not be too highly recommended. Meats are allowable, but the following must be avoided Eels, fat goose breasts, goose liver pies, rich sauces, mayonnaise on salmon, lobsters, or crabs, highly smoked or salted fish, because of the thirst they produce, fat ham, or bacon, sausages, seasonings and spices, red and black pepper nutmeg, mace, cinnamon and vanilla

FRUITS

Easily digestible stewed fruits are allowed because of their favorable action on the intestinal peristalsis Raw fruits which have to be peeled are desirable Grape stones should be removed before grapes are eaten Raspberries, gooseberries, currants, billberries, cranberries, pineapples, walnuts and Brazil nuts are to be prohibited

HOT AND COLD DRINKS

Ice in any form, either as iced drinks, fruit ices, etc, is prone to cause gastrodynia, and may produce congestion of the liver This should be kept in mind when ice is prescribed for vomiting

GENERAL INSTRUCTIONS TO PATIENT

A mixed diet of both meats and vegetables is to be given Thorough mastication and ensalivation of all the food is as indispensable in affections of the heart as in diseases of the stomach Of the use of tobacco the author states 'I always recommend patients suffering from heart disease either to give up smoking altogether or else to indulge in it most sparingly, and in the latter case to use very dry tobacco and a long mouthpiece or a pipe A patient should always be informed that smoking is bad for his heart disease" Drinking at meal time should be restricted Gentle exercise in the open air for a short time after meals is to be recommended Each case should be studied and the treatment should be modified in correspondence with the symptoms

TREATMENT OF CASES WITH ADEQUATE COMPENSATION

Abram, in the *Lancet*, Aug 6, 1904, gives the following suggestions for the treatment of various conditions under the following subdivisions

When compensation is practically equal to the lesion, the author believes that the patient should be told of his trouble in order to obtain his intelligent co operation in conducting his mode of living He should be warned against excesses of all kinds, mental and physical Exercise in moderation may be permitted, but never in competition If cycling is indulged in care should be taken not to struggle against head winds or up hill Moderation in the use of alcohol and tobacco must be enjoined, in fact, abstinence is advised In this stage of a mitral stenosis if a hemoptysis occurs, the author uses a free saline purge with a dose of opium If the patient is a woman and the lesion aortic she should be barred from marriage Well compensated cases of mitral regurgitation often pass through pregnancy without trouble Cases of mitral stenosis should be carefully watched during pregnancy "Our advice should certainly be against marriage"

TREATMENT OF CASES WITH PAIN AND DYSPNEA ON EXERTION

In this subdivision are cases in which palpitation, precordial pain, and dyspnea are manifest on exertion, and in a more advanced degree, some passive congestion, with its results in the kidney and liver In aortic cases throbbing in the neck vessels, headache, and giddiness may be troublesome Absolutely the best treatment is rest in bed for a week, with limitation of fluid and regulation of the diet and moderate purgation In aortic cases bromid and iron give relief General tonics, iron and strychnin, and small doses (two to three minims) of the tincture of digitalis, where rest can not be taken, will aid materially If there are diseased arteries with high tension, a rigid milk diet and diuretics are indicated.

CASES WITH SIGNS AND SYMPTOMS OF FAILING HEART

Such cases have to sit upright Limitation of fluid is often serviceable The bowels may be gently acted on For insomnia and the maniacal states frequently seen in aortic disease, trional, sulphonal or paraldehyd are useful, but opium is "our sheet anchor" Of the use of digitalis in aortic cases the author says "When we find thickened arteries and possibly some increase of tension there is no doubt that the best line of treatment is to limit the fluid taken, open the bowels, and give renal diuretics If cardiac stimulants are used I prefer strophanthus When the pulse tension is low digitalis is demanded, and also in cases where the mitral valve has yielded Dyspnea is often relieved by the use of atropin and strychnin hypodermically The 'sinking' sensation may be alleviated by the administration of solid opium or 'neat' brandy"

Chronic Colitis.

Shoup, in *Amer Med*, gives the following suggestions for the treatment of this condition

1 He believes the cause to be due in a large measure to displacement of the abdominal organs and the consequent indigestion and its sequelæ therefore, he replaces the organs and holds them in place by a properly fitted corset It is the invention of a Paris physician, and has a long, straight front, coming well down over the hips, and as low as can be worn in front, and is held down to the hose by elastic fasteners It is made to give firm pressure around the hips, and should be put on while the patient is lying down, and laced from below It may be necessary to change the corset several times before it is suited to the individual case

2 Make a chemical examination of the stomach contents and select a diet to suit the needs of the individual case If hydrochloric acid is much diminished or absent, meats should be partially or wholly excluded in the beginning of the treatment In cases with extreme constipation and passage of mucus, the diet of von Noorden, leaving a large residue and consisting of graham, whole wheat, or corn breads, spinach, cabbage, lettuce, asparagus, cresses, etc, has given the best results The explanation offered is that a bulky meal passes more quickly out of the stomach and through the intestine and overcomes the constipation, which is a most troublesome symptom If diarrhea is present the diet should be milk, broths, gelatin, eggs, custards, and peptones If the patient is nervous, a rest of two hours after the main meal should be insisted on When patients are thin, fats are indicated, and of these butter, cream and olive oil are to be preferred The olive oil may be given before breakfast, and in some cases before other meals as well

3 Assist digestion by the administration of hydrochloric acid and some one of the digestive ferments, such as pancreatin, papain, and diastase and bitter tonics, such as gentian or nux vomica. Allay fermentation by the use of intestinal antiseptics, such as salol, resorcin, and creasote.

4 Keep the bowels open by the use of oils by mouth, when the diet and olive oil fail castor oil is the best remedy to use Salines are not effective. Massage of the colon is also useful

5 Local treatment should consist of high enemas of alkaline solutions, followed by an astringent, such as krameria or silver nitrate. Large enemas of olive oil should be given while the patient is in the recumbent position, and allowed to flow by gravitation high up into the colon, they are soothing, healing and lessen constipation.

6 See that the patient gets sufficient rest in the recumbent position, and when practical, a change of air, at the mountains or seashore

7 Treat the attack of pain which precedes the passage of mucus by a hypodermic of morphin and atropin, and promote evacuation of the bowels by the method mentioned above

Urticaria.

Van Harlingen recommends the following

℞	Magnesii sulphatis	℥i	30	
	Ferri sulphatis	gr iv		25
	Sodii chloridi	ʒss	2	
	Acidi sulphurici dil.	ʒii	8	
	Infus quassiæ q s ad	℥iv	120	

M. Sig Tablespoonful in glassful of water before breakfast

Duhring recommends the following for local use

℞	Acidi carbolici	ʒiss	6
	Glycerini	ʒii	8
	Spiritus vini rect		
	Aquæ amygdalæ amaræ, āā	℥viii	240

M. Sig Apply locally two or three times daily to relieve itching and burning

The following is recommended for use in neurotic subjects

℞	Liquoris potass arsenitis	m xxiv	1	60
	Potassii bromidi			
	Syrupi aurantii corti, āā	ʒiv	16	
	Aquæ dest. q s ad	℥iii	90	

M Sig Teaspoonful three times a day

Medicolegal.

Insane Delusion Defined—The Court of Chancery of New Jersey holds, in the case of Davenport vs Davenport, that an insane delusion is a fixed belief based on supposed facts which exist only in the diseased imagination of the deluded person, persisted in against indisputable evidence of its falsity A mistaken conclusion, arrived at on consideration of existing facts, is not an insane delusion, although the facts may not justify the conclusion.

Indecent Physical Examinations.—The Supreme Court of Iowa says that the case of Garvik vs the B, C R. & N Railway Company was tried as if the charge was rape, by an employe of the company, and that counsel for the company asked that the jury go into a room and examine the man, who consented that it be done. The Supreme Court does not think that the examination by the jury should have been permitted It says that there was no showing that the private parts were in the same condition as they were when the assault was said to have been committed Moreover, the ultimate question was not the exact condition of this member, but whether or not the owner was physically incapacitated from having sexual intercourse The court doubts if this could be determined by a non expert from a mere examination of the penis Again, it says, the examination was indecent and should not have been tolerated Wounds resulting from injuries may undoubtedly be exhibited in open court to the jury, but even here no indecent exposures should be made. Furthermore, the evidence was not demonstrative in character The court adds that it has found no authority which justified the ruling made by the trial court, and that it doubts if there is any to be found in the books Be it remembered, it continues, that the plaintiff was entitled to be present during the entire trial with her counsel, and that there were others aside from the witness (employe) who were entitled to be present at the examination of his private parts "Let it be said, once for all, that we can not lend our support to such a shocking and indecent performance as was permitted in this case"

What Are Included in Privileged Communications.—Section 4,608 of the Iowa Code contains the provision "No practicing physician who obtains such information by reason of his employment shall be allowed, in giving testimony, to disclose any confidential communication properly entrusted to him in his professional capacity, and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice." The Supreme Court of Iowa says, in the personal injury case of Battis vs C R. I & P Railway Company, that all will agree that the manifest purpose of this statute is to make it possible for every person to fully and freely consult with a physician, or submit himself to the examination of such physician, without anticipation or fear that the confidence reposed may be broken in on by a subsequent examination of the physician as a witness in some form of legal proceeding This being true, the statute should have a liberal construction by the courts Accordingly this court has held that the expression "confidential communications," as used in the statute, is not to be restricted to the mere verbal statements made by the patient, but must be construed to include all knowledge or information acquired by the physician through his own observation or examination In the case at bar the interrogatories propounded to the physician were intended to elicit from him certain facts respecting the condition of the plaintiff, and it was manifest that whatever knowledge the witness possessed was acquired from the statements made to him by the plaintiff, and from his own examination and observation Clearly in such a case the statute applies, and the privilege may be insisted on Nor is the privilege taken away, as contended for, by the fact that while on the witness stand, and elsewhere, the plaintiff had stated that he was unconscious when taken to, and while he remained in, the office of the physician, and that the testimony sought to be elicited had relation solely to the condition of the plaintiff as to consciousness, the purpose thereof being the impeachment of the plaintiff as a witness It may be true, possibly, that the knowledge acquired by the physician was not, in point of fact, and strictly speaking, necessary and proper to enable him to perform the functions of his office But of this the court is not in position to judge, nor is it called on to determine what the fact might be when reduced to a last analysis It was the condition of the plaintiff that was the subject of the inquiry, and it was the professional judgment of the physician that was called for The privilege can not be subject to measurement by metes and bounds, and the court may well assume that all that was told to the physician, and all that was developed by his examination or came under his observation, was necessary and proper for his understanding of the condition of his patient The relation of physician and patient being established, if by any fair intendment communications made have relation to the physical or mental condition of the patient, the court is bound to hold them privileged With reference to the local surgeon of the company, called by the station agent to see the plaintiff, the court says that it may be conceded that the sole purpose of the agent in calling this physician was that the latter might ascertain the condition of the plaintiff, and thus be prepared to advise the company should occasion therefor arise, or be a witness on its behalf if necessary Certainly, if the visit of the physician had been confined to the limits incident to such purpose alone, his eligibility as a witness on behalf of the company might not be open to question. Without doubt a railway company with the utmost propriety may thus advise itself of the fact of injury and the character and extent thereof, in anticipation of a possible claim against it for damages And with that end in view it may send a physician to inspect and take notes, or otherwise inform himself of existing conditions But this can avail the company nothing unless the physician shall strictly retain his character as an employe of the company If, on request or on his own motion, he assumes to advise or administer treatment to the patient, and the latter in any manner acquiesces therein, the physician thereby casts aside his relation as an employe of the company and transfers his allegiance to the patient. In such instances a case is presented where one can not serve two masters at one and the same time The allegiance of the physician must be wholly on one side or the other It matters not, in this connection, who calls him in the first instance or who pays him He may present himself at the side of the patient on his own motion, and he may not expect, or in fact receive, pay If the physician assumes to advise or treat he should be put in possession of all facts necessary or material to enable him to do so properly If the patient acquiesce, he should have the right to, and should, communicate freely and fully, without fear of exposure or of having his confidence made common property It was to this end that the statute was enacted, and manifestly the purpose thereof may not be frustrated by proof that, at the time of rendering professional service, the physician was under control of employment to serve the interest of the person or company subsequently charged with responsibility for the identical injury he is called on or assumes to treat

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia

September 10

1 *The Nature of the Indications for Operation for Fibroid Tumors of the Uterus Charles P Noble
2 *On the Pathogenesis of Chronic Gastric Ulcer W G MacCallum
3 *Recent Experimental Work on Anesthesia Torald Sollmann
4 *Early Recognition and Treatment of Intestinal Obstruction Andrew S Lobingier
5 Rôle of the General Practitioner in the Prevention of Pulmonary Tuberculosis F M Pottenger
6 *The Principles of the Preservation of Food Geo Richter
7 The Advertising Specialist Fred D Lewis.
8 Sea Versus Land Burial Thomas R Evans

1 —See abstract in THE JOURNAL, xlii, p 1585

2 **Pathogenesis of Chronic Gastric Ulcer**—MacCallum says that gastric ulcers may be produced by anything which causes necrosis of the mucosa of the stomach, and thus subjects it to the digestive action of the gastric juice In some cases the inception is very obscure The persistence of some of these ulcers offers the greatest difficulty of explanation It is probably true that all gastric ulcers tend to heal, but frequently they last a long time because new ulceration occurs in the same spot

3 **Anesthesia**—Sollmann considers the following anesthetics Chloroform, ethyl chlorid, ethyl bromid, gaseous anesthetics, petroleum ether, scopolamin morphin, cocain adrenalin, anesthesin, and yohimbin, describing their action and dosage

4 **Intestinal Obstruction**—Lobingier emphasizes the fact that the treatment of true intestinal obstruction is immediately and at all times surgical Late operative interference, due to late diagnosis or to procrastination, is the principal cause of the mortality A preliminary gastric lavage will do much to quiet and rest the patient when vomiting is an early and depressing symptom But the deceptive tranquility, which it sometimes brings, should not allay the fears of the attendant or induce him to believe that his first diagnosis was wrong Efforts to straighten out volvulus and intussusception by hydrostatic pressure must be made early and with great care, but that is doubtful surgery, and many a life has been lost from rupture and peritonitis when the manipulations were violent or continued until the intestine was gangrenous If the patient is seen early, before serious necrosis occurs, simple release of the constricting band will often suffice If destructive changes have occurred, and if the patient is very weak and unable to stand prolonged anesthesia, a primary enterotomy should be done, to be followed by an anastomosis as soon as the patient is sufficiently convalescent If the patient is sufficiently strong, immediate exsection of the gangrenous segment and anastomosis are indicated Early diagnosis is, of course, necessary The symptoms which appear early and on which the diagnosis depends, are obstipation, vomiting, persisting more than fifty hours, pain, more or less severe and constant, shock or collapse, meteorism, of localized character normal or subnormal temperature, a small rapid pulse and a leucocytosis between 15,000 and 20,000, with a strong reaction of indicanuria, if taken before the third day, and if the ileum is involved

6 **Preservation of Food.**—Richter considers the preservation of food by drying, freezing, sterilization and the action of chemicals He has devoted considerable time to the study of the preservation of artificial foods, and has worked out a method which he claims has yielded favorable results It is well known that gelatin, prepared by the hot extraction of bone and cartilage is a digestible proteid, forming no mean part of our regular diet Dried gelatin, even if contained in open packages, is not subject to decomposition, but remains unchanged for any length of time As a jelly, it soon become putrid Gelatin, if prepared in very thin films, will take up moisture from the atmosphere according to the dew point Richter has made practical use of this by constructing a self registering psychrometer and to preserve food, especially native albumins His process demands that the material to be preserved should be in solution For instance, the juice pressed out of raw meat, or a beef soup, containing all the necessary condiments, or strong tea or coffee or ox gall, is mixed with about 1 per cent of primary gelatin (commercial gelatin can not be used for the purpose on account of its glue like taste) After cooling, a jelly forms This is cut into thin films and dried in a cold air current until it becomes brittle The leave are then converted into a fine powder, which will keep indefinitely If not packed airtight it will take up moisture but not enough for decomposition to set in It may eventually cake, but the cake is brittle Insects find the dry substance too hard for their uses The powder is instantaneously soluble in luke warm water To insure the absence of septic or other organisms, the dry powder is heated to about 100 C before packing, or in the package Whole milk can not be preserved on this principle as oxygen can not be excluded After a while the powdered milk turns sour and exhibits a taste and smell of cheese Egg gelatin powder has excellent keeping qualitie for about ten months, when its solubility becomes less, though it remains perfectly digestible These preparations are not on the market nor are they likely to be manufactured for the present

New York Medical Journal

September 10

9 *The Treatment Following the Bloodless Reduction of Congenital Hip Dislocation Dexter D Ashley and Frederich Mueller
10 The Present Condition of Tenontoplasty (To be continued) Professor Vulpius
11 Treatment of Mucomembranous Colitis by Colostomy John M Elder
12 *What Can Be Done to Check the Progress of the Age Degenerations? Bradford C Loveland
13 *Influenza or Acute Articular Rheumatism? Their Diagnosis, with a Report of My Own Illness Max Talmey
14 *Treatment of Status Epilepticus, with Report of Two Cases Annie M Tremaine
15 *Immediate Repair of Injuries of the Pelvic Floor H C Coe
16 Case Presenting Unusual Difficulties in Diagnosis (Cholecystitis Simulating Appendicitis) Walter G Elmer
17 Large Fibroids of Uterus Complicating Pregnancy, Porro Operation William C Wood

9 **After-Treatment of Congenital Hip Dislocation**—Ashley and Mueller consider the after treatment of unilateral and bilateral congenital dislocations of the hip of group B, that have been corrected by the bloodless reduction method Their method is that advocated by Lorenz

12 **How to Check the Age Degenerations**—Loveland considers those changes in the arteries and smaller arterioles or capillaries incident to advancing years, and imperfect elimination or the gouty habit, in which the walls become thickened

stiffened, harder than normal, and later pass through the calcareous or atheromatous degeneration Many conditions are dependent on these changes as a fundamental cause, and a considerable majority of all deaths occurring after middle life may be charged to the account of degenerated arteries All the causes, save two, nephritis and old age, are removable. Hence, says Loveland, it is logical to suppose that after a removal of the cause the disease should be stayed in its progress He reports three cases, in which he followed a definite method of treatment, which point to the fact not only that there was a limiting of the process, but from the relief of certain symptoms, it would seem that, in some degree at least, an improved circulation in the parts supplied by the diseased blood vessels would indicate a certain amount of restoration in the diseased territory This improved circulation and nourishment might result from the absorption of thickenings which had narrowed the lumen of the vessels, or a bettered circulation, with more dilated arterioles and capillaries, affecting to some degree the hardened and thickened vessels with the rest, thereby allowing the passage of more blood Two of the cases were diagnosed as arteriosclerosis affecting the cerebral circulation The third case involved the coronary arteries The treatment of one case consisted of a definitely prescribed diet, cool bathing, and moderate exercise, strychnin, 1/30 gr, and mercury protoiodid, 1/6 gr, three times a day In the treatment of the second case electricity and sodium phosphate each morning, and 5 gr each of sodium salicylate and sodium benzoate, in a large glass of water, three times a day, were added The results in the three cases were excellent, but the author does not believe that the patients referred to will not die from some disease dependent on arterial degeneration Yet, it seems natural that the mode of living, which will result in so much improvement, if persistently adhered to, should leave the patients to be taken off by some acute disease or to "burn out" with old age

13 **Differential Diagnosis of Influenza and Acute Articular Rheumatism.**—Talmey cites his own case and questions the diagnosis of acute articular rheumatism made by a brother physician He bases his contention principally on his family history and his personal history He terms the disease with which he suffers, and which involves the muscular attachment around the joints, "rheumatoid" influenza

14 **Treatment of Status Epilepticus.**—Tremaine reports two cases in which she used intravenous saline injections with benefit, hence concludes that in this solution we have a valuable remedy for the treatment of status epilepticus

15 **Immediate Repair of Injuries of the Pelvic Floor**—Coe emphasizes his belief that by careful attention to these lesions immediately after labor the patient can be spared the necessity of subsequent operations for pelvic floor lacerations, prolapsus, etc He says that the modern accoucheur must be a thoroughly trained gynecic surgeon, who not only recognizes the true lesion at the time of its occurrence, but looks into the future and sees the patient's condition months after the injury

Medical News, New York.

September 10

19 *An Analytical Study of Twenty eight Cases of Arthritis with Special Reference to Gout and Its Treatment Charles C Ransom
19 Contribution to the Pathology and Treatment of Acute Gonorrhea (To be continued) Ludwig Weiss
20 Recent Advances in the Therapeutics of Pediatrics Noble P Barnes.
21 Hereditary Chorea in Eighteen Members of a Family with a Report of Three Cases Malcolm Mackay
22 Influenza in Children Kenneth E Kellogg
23 Report of a Case of Addison's Disease Treated by Means of Suprarenal Extract and Adrenalin Chlorid *Douglas* Symmers
24 The Gastro-intestinal Crisis of Erythema Exudativum Simulating Appendicitis A. M Pond

18 **Arthritis and Its Treatment**—Ramson reports 28 cases of arthritis, 12 of which (43 per cent.) were gout The diagnosis is unquestioned, therefore it is interesting to note the relative frequency of gout Five of these 12 cases were acute gout, while the other 7 were of the chronic type of the disease Of the other 16 cases 5 were cases of rheumatic arthritis, 4 acute and 1 chronic, 5 cases of gonorrheal arthritis, 1 septic arthritis, 1 arthritis deformans and 2 cases of erythromelalgia The cases of acute gout were put on a milk diet, the joints were painted with a mixture composed of oil of gaultheria, 1 dram, ichthyol, 1 ounce, and then wrapped in cotton wool, oiled silk and a roller bandage Colchicin, 1/100 of a grain, was given every two hours, and, as a rule, could be repeated at two hour intervals for forty eight hours After the acute symptoms had subsided the drug was continued at intervals of four hours until the patient was discharged In the chronic cases the same method was employed in the case of inflamed joints Stiff joints were massaged and given passive movements and the patients directed to use the joints as much as possible—a very important factor in the treatment To affect his purpose Ramson employed an apparatus which he calls a "teeter," consisting of a piece of board twenty one inches long and eight inches wide About three inches from the lower end another piece of board about ten inches long is fastened at right angles to the first piece by means of a bracket. On the shelf so formed the foot of the affected leg is placed, the longer board being in contact with the posterior aspect of the leg The patient, seated in a rocking chair, rocks to and fro, thereby producing a greater or less amount of motion in the knee and ankle joints. It is an advantage over walking, as it not only keeps the weight of the body off the knees, but compels a much greater angle of motion The apparatus eliminates muscular rigidity and the movements of the joints are limited only by the actual structural changes, which are gradually overcome by persistent use of the "teeter" He also favors the use of colchicum in chronic gout The ichthyol bath is another measure which he has found useful in chronic cases. An ounce of ichthyol is put into a tub of water The water is fixed at a temperature of from 98 to 100 F, and the patient remains in the bath for from ten to twelve minutes The effect of the bath is the immediate relief of stiffness and soreness, which often lasts for forty eight hours, succeeding baths give longer periods of relief It is a good plan to precede the massage and movements of the joints by such baths, as there will then be much more freedom of movement and less soreness on manipulating Good food and tonics are, of course, essential

Boston Medical and Surgical Journal

September 8.

25 *What Shall We Do with Patients Having Pulmonary Tuberculosis? Frederick I Knight.
26 *The Interrelation of Medicine and Surgery in the Treatment of Gastric Ulcer Hugh Cabot and George S C Badger
27 Spindle-cell Sarcoma of Foot, Amputation Recovery Lung Metastases Death Autopsy Charles L Scudder

25 **Pulmonary Tuberculosis.**—Knight's paper is a discussion of the present treatment of tuberculosis by means of fresh air, diet and rest

26 **Gastric Ulcer**—The indications for the medical and surgical treatment of gastric ulcer are discussed by Cabot and Badger In acute bleeding ulcer operation is to be advised 1 After failure of good medical treatment to promptly stop acute hemorrhage 2 If, though the acute hemorrhage has been controlled, slight but frequently recurring hemorrhage persists 3 If, after the control of a large acute hemorrhage a second hemorrhage occurs within a short time It is not wise to defer operation until the patient is so far reduced as to render the risk of surgical operation very great. Medical treatment should be persisted in 1, in cases of acute hemorrhage not preceded by a train of dyspeptic symptoms and not showing a marked tendency to recurrence, 2, in cases in which acute hemorrhage is followed by apparent complete recovery, and in which the patient is free from serious annoyance from dyspeptic symptoms Operation is also indicated in perforating ulcers of the stomach, chronic dyspepsia without dilatation, which fails to yield to proper medical treatment, and cases of chronic dilatation of the stomach which fail to yield to medical treatment and are not due to a general visceral ptosis

Medical Record, New York.

September 10

28 *The Cycle of the Tubercle Bacillus A Preliminary Announcement. Stephen J Maher
29 *Clinical and Other Features of the Recent Epidemic of Cerebrospinal Meningitis Henry W Berg

30 *Mastoiditis with Paralysis of Facial Nerve, Recovery of Paralysis Following Operation Seymour Oppenheimer
31 Regarding Hamlet s Sanity John W Wainwright
32 *Illuminating Gas Poisoning, Its Rational Treatment Ernest V Hubbard

28 **Cycle of the Tubercle Bacillus**—Maher details his findings in the cultivation of a large bacillus which he has named *Bacillus maternus* and which he believes represents a mother shape of the tubercle bacillus He found the organism in a dark barn The individual rods from blood or milk cultures measure from three to eight microns in length and from three fourths to two microns in width One average rod would cover a dozen average tubercle bacilli It is a non motile facultative anærobe It forms a sediment and scum on bouillon and renders it turbid It forms an opaque, non spreading colony on the surface of agar or glycerin agar in tubes or petrie dishes Deep colonies in agar resemble those of anthrax It grows at room temperature, and its spores resist more than 100 degrees of moist heat for an hour It digests but does not curdle milk It forms a sunken colony in blood serum and only slightly digests the serum It quickly dissolves gelatin and shrinks to smaller rods On ammoniated gelatin the rods are somewhat stouter, with a growth of diplococci After fifty hours on sugar gelatin the colony consists of many large spores and an immense amount of acid fast amorphous spore matter, which fills to bursting many of the rods, and which is also found in various rounding shapes, free in the microscopic fields On potato, a dry opaque gray or lemon colored growth is formed Maher has not yet been able to grow a pure colony of *Bacillus maternus* from tubercular sputum, but is satisfied that he has several times recognized individuals and groups of this organism in the fields of blue biscuits and pus nuclei and acid fast rods, with which we are all familiar He has isolated what seems to be a pure culture of *Bacillus maternus* from smegma and also from the spleens of guinea pigs dead with tuberculosis

29 **Cerebrospinal Meningitis**—Berg's usual method of treatment consists of repeated lumbar punctures only when, after a period of improvement, the temperature rises again and symptoms of increased intraspinal and intracranial tension occur If the cerebrospinal fluid flows from the canula in a continuous stream under tension, the withdrawal of from 15 to 30 c c of fluid will do much good If it escapes drop by drop the puncture will have no effect from a therapeutic standpoint Sodium iodid is given in considerable doses, from 5 to 10 grains every three hours to a child over a year old, from 15 to 20 grains every three hours to adults Adults also receive 15 grains of mercuric ointment by inunction in the back of the neck twice daily, until the gums are red In children with open fontanelles, the oleate of mercury in proper doses is rubbed into the anterior fontanelle In older children the mercurial ointment is rubbed into the back of the neck and spine, in pieces as large as a bean, several times a day Icebags should be applied to the head, neck and spine With these methods, together with the treatment of symptomatic indications, 40 per cent of recoveries may be expected When the temperature goes above 103 F he uses a warm bath, temperature 80 F, in which the patient remains five minutes The temperature of the bath is then raised to 90 F and the patient allowed to remain five minutes more Care must be taken to prevent bed sores, local infection of the skin, eyes, ear, nose and throat The patient should be placed in a large light room, with plenty of air space and proper ventilation Sun light is desirable, as it is one of the most powerful antidotes to the bacteriologic cause of this disease

30 **Mastoiditis and Facial Paralysis.**—Oppenheimer reports two cases of mastoiditis with paralysis of the facial nerve, both of which recovered after operation He offers nothing new

32 **Illuminating Gas Poisoning**—Hubbard reports a case of this kind in a woman, aged 75, in which, following venesection, abdominal hypodermoclysis was done The pulse, which had been thready and barely perceptible began to improve within a few minutes The injection was continued until 1,200 c c had been given After an hour the patient showed the first signs of returning consciousness and by nightfall she had quite recovered Venesection removed much of the poison and the saline infusion diluted the remaining poison, and furnished the heart with fluid to continue its work until the blood making organs could furnish a new supply The venesection must be performed early in order to ensure success The amount of blood to be withdrawn will vary in the individual case When the pulse becomes feeble it is time to stop The saline infusion is injected until the radial artery at the wrist gives a full steady beat If four or five hours have passed with no evidence of returning consciousness, a second venesection may be done, but with great caution

Cincinnati Lancet-Clinic.

September 10

33 Ductus Cysticus Bilis The Duct of the Cholecyst or Gall Bladder Byron Robinson
34 Ice Cream Balls a Report of Two Cases of Ptomaine Poisoning F Hoeffer McMechan.

Buffalo Medical Journal

September

35 *Post partum Hemorrhage J W Grovenor
36 Adulteration of Food and Food Products John H Grant.
37 An Analysis of 50 Herniotomies. Marshall Clinton.

35 **Postpartum Hemorrhage**—Grosvenor, in a very excellent article on this subject, calls attention to the following important points 1, The gravity of the subject, 2, uterine atony, the most frequent cause of postpartum hemorrhage, 3, meddlesome midwifery, a prolific cause of postpartum hemorrhage, 4, profound anesthesia a causal factor, 5, the need of watchfulness and alertness on the part of the accoucheur, 6, the treatment demands that the accoucheur be prompt and resourceful, 7, the necessity of both contraction and retraction of the uterus, 8, although cases left to nature have recovered, a do nothing policy is strongly condemned, 9, the usefulness of prophylactic treatment, especially in cases which indicate the existence of a hemorrhagic diathesis, 10, heredity a causal factor of the hemorrhagic diathesis, 11, the advantage of medical superintendance of pregnancy from its incipiency to its close, 12, the importance of after treatment

Archives of Pediatrics, New York.

August

38 *Some Considerations Regarding Substitute Feeding During the First Year Thomas M Rotch
39 *The Influence of Breast Feeding on the Infant s Development. Henry D Chapin
40 *Primary Malignant Tumor of Both Adrenal Glands with Secondary Affection of the Liver Samuel Amberg
41 Simple Method of Modifying Milk in the Tenements Emelyn L Coolidge

38—This article has appeared elsewhere See THE JOURNAL of September 3, 1908, p 697

39—Ibid, title 65, p 697

40 **Primary Malignant Tumor of Adrenal Glands.**—Amberg reports a case of this kind occurring in a child two months old The parents first noticed a slight swelling of the abdomen, which increased rapidly On examination he found the enlargement, some edema of the abdominal walls and the superficial veins much distended On palpation, a hard smooth mass was felt, chiefly in the right side of the abdomen, extending from the costal margin down to the right inguinal region, passing deeply into the right flank and filling up the whole space between the ribs and the iliac crest In the right inguinal region a firm edge was felt, which could be traced from Poupart's ligament toward the navel, passing below the navel and then gradually ascending To the left of the navel a notch could indistinctly be felt, but it was not possible to distinguish two separate masses The length of the tumor mass in the median line was 16 cm, the distance from the interclavicular notch to the umbilicus was 21 5 cm, and the greatest circumference of the abdomen was 46 cm The uniform tumor apparently represented the liver The red blood corpuscles numbered 2,800,000, the white 11,000, of which 79 per cent were polymorphonuclears 18 5 per cent small mononuclears, 2 3 per cent large mononuclears and transitionals, and 0 2 per cent eosinophiles The child died in convulsions six days after it was seen the first time The autopsy disclosed a tumor of the left adrenal gland and a very much enlarged liver The liver was cirrhotic and fatty, and contained numerous masses

of cells, the same as those in the adrenal tumor The tumor was apparently a malignant one, taking its origin, probably, from the medulla of the adrenal gland The growth in the adrenal itself was too far advanced to give any information regarding its origin Morphologically, the tumor may be classed as a carcinoma or as an alveolar sarcoma

American Journal of Orthopedic Surgery, Philadelphia.

August

42 President's Address, American Orthopedic Association Reginald H. Sayre.
43 *Technic of Neuroplasty Hans Spitzy
44 Report of a Case of Nerve Anastomosis for the Cure of Infantile Palsy James K. Young
45 *Final Results in Tendon Transplantation Albert Hoffa
46 *Surgical Procedures for the Relief of Infantile Paralysis of the Lower Leg John Dane and David Townsend
47 *Value of Bier's Congestive Method' in the Treatment of Joint Tuberculosis Albert H Frieberg
48 Distinction Between Fracture of the Neck of the Femur and Epiphyseal Disjunction in Early Life with Reference to Its Influence on Prognosis and Treatment. Royal Whitman
49 Operative Treatment of Intracapsular Fracture of the Hip a Report of Cases. Charles F Painter
50 Anatomic Treatment of Fracture of the Neck of the Femur by Which Bony Union Can Be Secured in the Large Majority of Cases James D Moore
51 Extirpation of the Tensor Vagina Femoris for the Correction of Internal Rotation in Spastic Paraplegia (Little's Disease) V P Gibney
52 The Heidelberg Splint a New Bandage O Vulpius
53 Treatment of Acute and Subacute Inflammations of the Knee Joint by Apparatus Permitting Locomotion with Protected Antero-posterior Motion at the Joint. Newton M Shaffer
54 Influence of Growth on the Course and Treatment of Congenital Clubfoot. A. B Judson
55 Report of Experiments to Determine Whether Plaster of Paris Contracts or Expands in Setting J Torrence Rugh

43 **Technic of Neuroplasty**—Experiments on animals, as well as operations on man, have proved that it is possible to establish reciprocal connection between two different nerves Splitting and grafting of nerves have also been performed on man, and, in some cases, with good results Spitzy carried on experiments for the purpose of determining the kinds of paralysis that are observed most frequently, and the best methods for correcting the same. Dogs were used, and his results were good. The first rule is most scrupulous asepsis and a careful closure of the incision The first experiment consisted of grafting the perineal nerve on the tibial Clinical tests showed a good result Microscopic sections made from tissue taken from the site of union showed distinctly the passing of nerve fibers from the stem of the tibial nerve into the implanted peripheral stub of the perineal Other experiments were equally successful Neuroplasty should be resorted to in cases of paralysis where the period of spontaneous regeneration has passed and when other therapeutic measures have proved useless, if the interruption of the conductivity can not be remedied by means of an operation (excision of the scar, primary or secondary suture, neurolysis) Neuroplasty is to be recommended in any case before an extensive tenoplasty is attempted. The author expresses the opinion that these plastic operations are, at all events, worth a trial The advantage of the method is that it does not interfere with any other methods known and practiced, but is an addition and an increase to our therapeutic resources

45 **Final Results in Tendon Transplantation.**—Hoffa says that in order to achieve a good result after a tendon transplantation four conditions are necessary 1 Perfect asepsis 2 Prevention of hemorrhage. 3 Healthy muscle material 4 the tendons must be united under certain tension Not much can be expected from an operation on a limb totally paralyzed The leg cannot be made to functionate again, but the patient can be freed from the annoyance of depending on orthopedic apparatus This can be done in a great number of cases In other cases a certain amount of tendinous fixation of the joints can be produced which still allows a certain amount of functional activity In some cases it is possible to bring the muscle back to life These are the ones in which the regenerative powers are still present in the muscles By shortening the muscles their elasticity and tone is restored. As to the method of operating, Hoffa believes that the best results can be obtained by combining the operation of Nicoladoni with that of Lange. Of course, the factor of individual experience in the performance of these operations counts for much The most important essential for the success of the operation is to obtain the highest possible tension with an over correction of the deformity This necessitates the correction of the deformity before operating The longer and more careful the after treatment the better are the final results Hoffa refers briefly to the good results he has obtained in paralytic club foot, shoulder joint paralysis, spastic contracture of the forearm and elbow, and paralytic talipes calcaneus

46 **Infantile Paralysis of the Lower Leg**—The authors have made a comparative study of the results of various surgical operations for the improvement of the conditions found in the lower limb as a result of infantile paralysis in 50 consecutive cases, with a view to determining what operations offered the best prospect of a useful limb As the operations were performed by various surgeons, the equation of personal technic was practically eliminated It is important to remember, however, that all these cases were dispensary patients, and were cared for in the dispensary after the operation The present status of 14 cases could not be obtained These statistics would seem to show

1 That in all cases where an attempt was made to restore the balance of muscular power by means of a transference of either the peroneus tertius or the extensor longus hallucis the transplanted muscle has failed to hypertrophy to an extent sufficient to cause any benefit (Eleven such cases fail to show any improvement.)

2 That simply shortening the extensor tendons in cases of equinus even aided by transplantation of the flexor longus hallucis is of no prominent benefit (Two operations, both followed by relapse)

3 That where the peronei are inserted into a paralyzed tendo Achillis for the relief of calcaneus the result is usually disappointing (Five operations the result in four being distinctly poor, and in one only fair)

4 That, in cases where the peronei are transplanted to the inner side of the foot for the correction of a valgus deformity the results are slightly better, but there are relatively few successes (Six operations. Two results were poor, two fair, and only two good)

5 That, where a portion of the tendo Achillis is transplanted to the extensor side of the foot for the relief of equinus the condition is distinctly improved (Two operations that in which the tendon was joined to the common extensor giving a stronger foot when it was united with the anterior tibial)

6 That the best results following tendon transplantation were in cases where the whole or a portion of the anterior tibial was transferred to the outer border of the foot for the relief of equino varus (Three operations showing two good results and one that was fair The latter was performed by the so-called Lange method of lengthening the transplanted tendon by means of braided silk The silk acted as a foreign body and sloughed, thus preventing a good result. Experience with cases that are too recent as yet to report would seem to show that where the transplanted tendon can be given a sub-periosteal insertion in the cuboid the functional result is better than when it is inserted into the tendon of the peroneus brevis All the latter cases promising well)

7 That astragalectomy uniformly yields a good useful foot (Three cases, and all successful)

8 That the results of arthodesis of the tibio-astragaloid joint are, as a rule, excellent. (Nine operations, with seven good results In one of these cases complete immobilization was not secured at the first operation, but a second gave a most excellent result. In the other there was no improvement, due probably to a failure to remove a sufficient amount of the articular cartilage A somewhat stronger foot was found in the cases of arthrodesis than these where astragalectomy had been performed.)

The conclusion would seem to be that, while tendon transplatation may in certain cases yield a satisfactory result, the selection of cases for this operation should be much more careful than it was three or four years ago and that for the great majority of hospital cases either astragalectomy or arthrodesis offers by far the greatest promise for obtaining a strong useful foot several years after the operation

47 **Bier's Treatment in Joint Tuberculosis.**—Freiberg discusses Bier's "congestive method" in the treatment of joint tuberculosis Originally, the congestion produced was as great as possible, the parts became not only turgid with venous blood, but also cold Considerable pain had to be endured by the patient, and the constricting bandage was applied for hours at a time Bier has modified his method so that all possibility of damage by it would seem to be removed As at present advocated, the congestion should never pass beyond the "hot stage" The patient should feel no pain, the treatment should not be more than one hour daily Freiberg has found that by using a bandage of elastic cotton webbing the degree of congestion is controlled more easily than when the rubber bandage is used. In patients of ordinary intelligence the proper application of the bandage is very soon learned, so that it can be applied at home. In conjunction with the Bier method, Freiberg insists on immobilization and protection, the same as heretofore. He regards the method as an adjuvant to the re

sources long at our disposal, but by no means destined to supplant them The improvement in results is unquestionable, but not so great that he would be willing to trust to congestion alone The congestion method of treatment has an influence on muscular atrophy by accelerating the reparative process The possibility of cure by congestion, says the author, is never to be ignored It would seem of special importance in diseases of the wrist and ankle, but to attain success by means of Bier's method requires time, and patience, and care in detail Unreasonable things should not be expected of it Three cases are cited in which the method was used successfully

Journal of the Association of Military Surgeons, Carlisle, Pa

September

56 Observations on the Campaign in Western Porto Rico During the Spaish American War Bailey K Ashford
57 *Differential Diagnosis of Typhoid Fever in Its Earliest Stages William C Rucker
58 Report of a Case of Malarial Sciatica Elon O Huntington
59 United States Army General Hospital at the Presidio Alfred C Girard

57 **Differential Diagnosis of Typhoid Fever**—Rucker gives a splendid review of the differential diagnosis of typhoid fever, covering the entire field, including all the various laboratory methods that serve as a means of diagnosis He had fused his own experiences with those of many other observers and gives an impersonal résumé of the whole, endeavoring to treat the subject in its entirety rather than make the paper an excuse for a dissertation on one particular point He summarizes his paper as follows 1 There is no single symptom on which alone an early diagnosis of typhoid fever can be made It is only by careful consideration of the symptom complex that a clinical diagnosis can be arrived at 2 The most trustworthy, as well as the earliest sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth 3 The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory 4 The bacillus of Eberth is found in the feces later than in the blood, but with comparative ease The presence of the *Bacillus typhosus* in the feces is of great value as a corroborative sign 5 The presence of the *Bacillus typhosus* in the rose spots is a trustworthy sign, but has no advantages over examination of the blood from other localities 6 The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever It is of value only in the higher dilutions

Medicine, Detroit

August

60 *The Early Lesions of Arteriosclerosis, with Special Reference to Alterations in the Elastica W M L Coplin
61 Acute Suppurative Disease of the Mastoid Complicating Influenza, with Report of Three Cases P S Donnellan
62 *The Mental Disorders of Neurasthenia Frank Parsons Norbury
63 The Trophic Disturbances of the Fifth Pair of Nerves Harold N Moyer
64 The Limitation of Untoward Effects in Anesthesia Henry B Hollen

September

65 *Bacteriologic Study of Scarlet Fever J F Schamberg and Nathaniel Gildersleeve
66 Report of a Case of Stokes Adams Disease R L Pitsfield
67 *Tentative Surgical Methods in the Treatment of Some Stomach Maladies Thomas H Manley
68 Importance of Antepartum Examination Frederick Leavitt
69 The Molar Teeth and the Patellar Reflex in Heredity Syphilitic Interstitial Keratitis George F Suker
70 Brometone in Diseases of the Eye, Ear, Nose and Throat J J Kyle
71 Syringomyelia Richard C Newton
72 *Primary Carcinoma of the Vagina Charles G Cumston

60—This article has appeared elsewhere See THE JOURNAL of July 16, 98, p 226

62—See abstract in THE JOURNAL of July 30, 52, p 354

65 **Bacteriological Study of Scarlet Fever**—Schamberg and Gildersleeve examined bacteriologically a series of cases of scarlet fever The cultures were made between the second and sixth day of the disease The blood of twenty cases was examined and negative results obtained in all Streptococci and staphylococci were found in the vast majority of the cases Cultures were made from the throats of 100 apparently well persons, and streptococci were found in 82 per cent Both streptococci and staphylococci undoubtedly are frequently concerned in the complications of scarlet fever, but are not to be looked on as the specific agent The diplococcus described by Class as the cause of scarlet fever was found by the authors in a comparatively small per cent of the cases examined. They do not regard this organism as bearing any etiologic relationship to the disease They believe that the failure to discover the specific cause of scarlet fever may have been due to the fact that almost exclusive search has been made for vegetable parasites and not for animal parasites The findings of Mallory, of protozoa like bodies in the skin of scarlet fever patients, will doubtless stimulate research along these lines

67 **Tentative Surgical Methods in Stomach Maladies.**—Manley considers mechanical therapy, gastric therapy and therapy of the abdominal walls in their relation to the treatment of affections of the stomach, both functional and organic, reviewing accepted methods and procedures

72 **Primary Carcinoma of the Vagina.**—This is a full discussion of this subject, particularly the surgical treatment, with a report of one case, the patient dying about four months after the operation

St Paul Medical Journal

September

73 *On Certain Non diphtheritic Membranous Anginas Louis B Wilson
74 Duodenal Ulcer, Symptoms and Diagnosis Christopher Graham
75 Notes on the Management of Fractures of the Lower Extremity with Hodgen s Splint, with Report of Cases W T Adams
76 *Subparietal Injuries of the Kidneys Walter Courtney
77 *Pneumonia A T Conley
78 The Abuse of Drugs C R Christenson
79 *Surgical Treatment of Varicose Veins C H Mayo.

73 **Nondiphtheritic Membranous Angina**—Wilson divides the non diphtheritic pseudomembranous anginas into several groups, each of which is a more or less distinct clinical entity associated with a species of micro organism either alone or in great preponderance These nondiphtheritic anginas are important not only because of the necessity of differentiating them from diphtheria, but also because they are frequently transmissable, and their treatment should vary according to the micro organism present Careful clinical observations, in connection with full bacteriologic investigations, should be made in each case In order to determine as early as possible the etiologic factor in anginas, cover slip or slide preparations from the membrane, as well as cultures on diphtheria media, should be made by the physician on his first visit These should be dried without healing, then fixed by heat, and either stained by the physician, or sent to a laboratory with the culture for further examination Wherever possible, more extensive bacteriologic investigation should be made Among the associated organisms found by Wilson were streptococci, diplococcus pneumoniæ, Friedlander's bacillus, spirillum of Vincent, and blastomyces He believes that the blastomyces is a much more common cause of angina than is believed These cases present a clinical history of onset with chill, somewhat rapid rise in temperature, malaise and considerable prostration The tonsils are congested, swollen, and rapidly become covered by a thin, grayish white membrane, which in most cases extended forward from the tonsils over the anterior faucial pillar, and in some cases upward, involving the uvula and soft palate The membrane does not yield readily to local treatment, to silver nitrate, iodin, lactic acid, carbolic acid, or formalin Antitoxin has been used without any effect on the membrane Two cases in which no other organisms were obtained in culture proved fatal Blastomyces were found alone in 136 cases, and in 97 cases they were associated with bacillus diphtheriæ The organism grows abundantly on the ordinary laboratory media, forming a thick, white and moist growth In fluid media the growth sinks to the bottom of the tube in a few days Glucose and maltose are fermented but without the formation of alcohol No fermentation occurs in lactose The organism stains readily, but unevenly, showing nuclei, vacuoles, and chromatophilic granules No spore formation has been produced

76 **Injuries of the Kidney**—Courtney discusses this subject,

reports four cases, and concludes by saying that the inference to be drawn is that nephrectomy should only be performed early when the renal vessels are known to be torn, or when there is such unmistakable disorganization of the kidney structure as to make it reasonably certain that resumption of function can not be expected

77 **Pneumonia**—Conley gives a short review of the treatment of pneumonia for the last fifty years, but offers nothing new

79 **Surgical Treatment of Varicose Veins**—Mayo is of the opinion that the essential predisposing cause of varicose veins is a congenital defect in the vessels or their innervation, which, in some cases, may be aggravated by occupation, injury, childbearing or constipation He favors a partial Schede operation or oval incision above a large ulcer combined with excision of the ulcer and skingrafting At the same time, the Trendelenburg operation, or the more extensive excision of the internal saphenous vein from the upper third of the thigh to a point six or eight inches below the knee, is also performed The removal of short areas of veins is reserved for those cases with involvement of the veins of the posterior thigh or the external saphenous In a very few cases where the veins are enormously and irregularly dilated, the stripping process, described below, is impossible through the whole extent of the saphenous The Bristol method is then used as an adjunct to the enucleation treatment. The author's method is as follows The vein is sought for and severed in the upper third of the thigh The proximal end is ligated, the lower end is clamped an inch from the end, which is passed through the ring of the enucleator (a ¼ in ring of steel with a long handle, not unlike a blunt uterine currette) or placed in the tube of the forceps (which are hollowed out in each blade so as to form a long tube, when closed, about ¼ of an inch in diameter) and the clamps are transferred to the end of the vein By gentle pushing force the ring or forceps is pushed down the vein, held under tension for six or eight inches, tearing off the lateral branches when the point of the instrument is forced against the skin from beneath, and a small incision made in the skin to the ring or forceps, which is pushed through the opening holding the vein in it like a thread in a needle eye. The vein loop is drawn out of the opening and also from the instrument, which is removed and re-threaded and again forced through the new skin opening, following the vein, and is pushed down to a lower point where a small incision is again made and the same process of removal repeated. The small lateral branches are torn off and, as a rule, have enough muscle structure to close themselves Below the knee, the branches are larger and the vein is more adherent, so that a short distance can be traversed Hemorrhage is avoided by position An ordinary gynecologic standard is placed in position and the leg raised in straight or extended position and supported by the ankle. This renders the limb partially bloodless and secures elevation and accessibility of the field of operation More than momentary hemorrhage can be checked by a small pack, or an assistant can check it by pressure pad held against the skin over the region from which the blood escaped from the vessels This method has reduced the time for operation very considerably, and has placed it in the class of relatively trivial operations, although sepsis may render it one of the most serious

Cleveland Medical Journal.

September

80 *Syphilis of the Stomach. Charles F Hoover
81 *A Year's Experience with the Convulsions of Children D S Hanson.
82 Eclampsia and Its Treatment. Martin Stamm.
83 Paranoia. E C Brown

80 **Syphilis of the Stomach.**—Hoover says that the varied characters of syphilis of the stomach, and the symptoms it may produce, have so many points in common with other diseases that the diagnosis during life must rest on the therapeutic test Three cases in point are reported, each presenting entirely different symptoms In none of the cases was there a palpable tumor or area of maximum tenderness. Nothing abnormal could be detected in physical examination as far as the stomach was concerned In two cases the only symptoms referable to the stomach were pain, and vomiting, after the ingestion of food Although two cases gave a clear history of syphilis no evidences of syphilis were apparent on physical examination The third case had a saddle nose and perforated soft palate In these cases it is important to make a diagnosis so that proper treatment can be followed Unless the physician is strongly impressed with the possibility of syphilis being the etiologic factor, iodid of potassium will not be given on account of its irritating properties to the stomach When in doubt, give iodid of potassium, is a maxim easily followed when the stomach is not at fault But the administration of iodid of potassium in a doubtful case in which gastric pain and vomiting are the conspicuous symptoms, is abhorent to the mind of the therapeutist unless the idea of syphilis is paramount in his speculations

81 **Convulsions of Children**—Hanson details his experience with the convulsions of children, making special reference to the etiology of the cases observed, and emphasizes the importance of chloroform inhalations, chloral enemata, hypodermic injection of morphin, and the inhalation of oxygen in the treatment of these cases, each to be used as indicated

Indiana Medical Journal, Indianapolis.

August

84 Paretic Dementia Ernest C Reyer
85 *Will the Long Continued Administration of Digitalis Induce Cardiac *Hypertrophy*? *Frank B* Wynn
86 Case of Mechanical Ileus Due to a Constricting Band and Angulation with Adhesions L H Dunning
87 Use of the Galvano Cautery in Enlarged Prostate Through the Median Perineal Incision Wm N Wishard
88 Perineal Prostatectomy the Treatment of Choice in Prostatic Hypertrophy Joseph Rilus Eastman
89 Club-foot J H Oliver

September

90 *Intestinal Obstruction with Report of Cases L. G Bowers
91 *Treatment of Fractures and Dislocations According to Modern Principles. J B Fattic
92 *The Yeast Poultice with Instances of Its Successful Use E J Kempf

85—*This article* appeared in The Journal of July 16, p 164

90 **Intestinal Obstruction**—Bowers discusses the etiology dynamics, and symptoms of intestinal obstruction, and reports two cases, one a man aged 45 years, in which a Meckel's diverticulum was the cause of the obstruction, the second case a boy 3 years old, in which the obstruction was caused by a portion of the bowel being forced through a slip in the mesentery An end to end anastomosis with the Murphy button was performed in the first case, and the patient recovered The second patient died from the results of a very extensive gangrene of the bowel

91 **Points in Treating Fractures and Dislocations.**—This is a general discussion of the subject, as indicated in the title, in the course of which Fattic sounds a note of warning with reference to the improper use of the *x* ray in determining whether or not a fracture has been attended to properly Patients sometimes are inclined to base their intention of bringing suit for malpractice on the ground that the fracture was not set properly because the *x* ray's shadow shows badly and oftentimes gives the appearance of deformity when for all practical purposes it was perfect In this way, in incompetent hands, the *x* rays may wreak injustice on innocent practitioners

92 **Yeast Poultices**—Kempf reports six cases of sepsis and gangrene in which the yeast poultice was used with satisfaction His method is as follows Beer yeast, one quart, corn meal, finely sifted, one pint, mix and place the mixture near a fire until it rises Then mix the thin raised dough with about two ounces of finely powdered charcoal Apply the mixture on a thick cloth directly to the affected part and renew every twenty four hours It becomes dry and adheres to the parts but can be removed readily with warm water This is a most efficient antiseptic poultice for the treatment of gangrene, erysipelas, eczema, ulcers, etc

Medical Fortnightly, St Louis.

August 10

93 Is the Profession Growing Less Ethical? M. V Ball
94 American Archeology from the Medical Standpoint A I Benedict.
95 Ocular Lesions in Scarlatina Filet O Sisson

August 25

96 The X Ray as a Therapeutic Agent Edwin Walker
97 *Mental Disorders of Neurasthenia Frank P Norbury
98 An Analysis of Last Year's Work in the Municipal Dispensary of the City of St Louis Henry J. Scherck

97 —See abstract in THE JOURNAL, xlii, p 1440

Virginia Medical Semi-Monthly, Richmond

August 12

99 Appendicitis John T Graham
100 Complications and Sequelæ of Parotitis D L Kingsolver
101 Success in Medicine and the Way It May Be Achieved George Tully Vaughan
102 Chloroform Anesthesia A Jacoby
103 Should the Proposed New Constitution and By Laws of the Medical Society Be Adopted? George B Jennings
104 Professional Union Or A United Profession J G Carpenter

August 26

105 Adenoids and Enlarged Tonsils Joseph A White
106 State Medical Organizations and the American Medical Association Landon B Edwards
107 Smallpox Occurring During Pregnancy Lewellyn Eliot
108 Arthritis Deformans,' with Report of Case Emmett F Reese
109 A Case of Acute Yellow Atrophy of Liver Complicating Appendicitis Lewis C Bosher
110 Plea for the Use of a Standard Whisky Thomas R Evans
111 Hebb s Improved Clamp for Earle's Method of Operating for Hemorrhoids S Earle, Jr

Annals of Ophthalmology, St Louis.

July

112 An Improved Scale for Determining Muscular Insufficiencies Harold Bailey
113 Case of Bilateral Enlargement of Lachrymal Glands William T Shoemaker
114 Microphthalmos and Congenital Anklyoblepharon Two Cases Walter H Snyder
115 Paralysis of the Upward Movements of the Eyes William C Posey
116 Suggestions as to Postmydriatic Refraction Tests George M Gould
117 Pemphigus of the Conjunctiva with Report of a Case S H Brown
118 Observations on the Pathology of the Crystalline Lens E S Thomson
119 Historic Note Regarding the Optic Chiasm and Some Points Referring to Monocular and Binocular Vision M Marquez

Atlanta Journal-Record of Medicine

August

120 Study of a Case of Lateral Curvature of the Spine A Report of an Operation for the Deformity (Concluded) Michael Hoke
121 The Prevention of Diarrhea with Special Reference to Bacteriology Robert W Hynds

Denver Medical Times

August

122 Normal Obstetrics (To be continued) T Mitchell Burns
123 An Outline of Hematuria Edward C Hill
124 A Model Act to Protect the Public Health and Regulate the Practice of Medicine S D Van Meter

Merck's Archives, New York.

August

125 Teaching and the Text Books of Materia Medica and Therapeutics John Forrest
126 Index of Disease Alphabetically Arranged, with Their Modern Treatment. G Bjorkman

Memphis Medical Monthly

August

127 Pneumonia James S Rawlins
128 Hints on the Diagnosis and Treatment of Pneumonia in Young Children Hermon Hawkins
129 Technic of the Operation for Appendicitis. J E. Johnson
130 Clinical Notes on Three Cases of Appendicitis Alfred Moore
131 Two Recent Cases of Extra Uterine Pregnancy John M Maury
132 The Management of Typhoid Convalescence J R Nelson
133 Conjunctivitis B S Penn
134 Treatment of Chronic Posterior Urethritis John L Jelks

Texas Medical Journal, Austin.

August

135 The Medical Profession A Contributory Factor to the Death Rate of Consumptives C H Wilkinson.
136 Albargin Joint Review, with Personal Experience. Dr Seifert

St Louis Courier of Medicine

August

137 Modern Treatment of Cholera Infantum Robert M. Sterrett
138 Value of Differential Leucocyte Count in the Diagnosis of the Diseases of Infancy John Zahorsky
139 Angioneurotic Edema, Report of a Case M George Gorin
140 Brief Notes on Three Cases of Strangulated Hernia John Young Brown
141 Serum Treatment of Typhoid Fever E A Babler

Oklahoma Medical-News Journal, Oklahoma City

August

142 Typhoid Fever Diagnosis and Treatment Charles Blickensderfer
143 Elbow Joint and Some of Its Abnormalities R H Tullis

Interstate Medical Journal, St Louis.

August

144 Diagnostic Considerations of Hemorrhage from the Stomach F Gregory Connell
145 Fracture of the Forearm Followed by Contracture of the Flexor Tendons Report of a Case. Clifford U Collins.
146 Surgery of Arthritic Deformans Hermann B Gessner
147 Plastic Surgery C E Ruth

Medical Age, Detroit

August 25

148 Chronic Laryngitis as Treated by the General Practitioner J T Pratt
149 Tuberculous Spondylitis, Diagnosis and Prognosis. John L Porter

Carolina Medical Journal, Charlotte, N C

August

150 The Treatment of Prostatic Hypertrophy Lewis C Bosher
151 Cholera Infantum W F Chenault
152 Fecal Vomiting in Intestinal Obstruction A. K Bond

Medical and Surgical Monitor, Indianapolis.

August 15

153 The Typhoid Ulcer Its Surgical Aspect. Thomas B Noble
154 Important Triangles of the Thigh. H R Allen
155 Etiology and Diagnosis of Scarlet Fever A L Wilson.
156 Intestinal Obstruction, with Report of Cases L. G Bowers
157 Fracture of Skull Base Remote Effects F W Foxworthy
158 Experience and Theory J W Crismond

Fort Wayne Medical Journal-Magazine

August

159 Surgical Diagnosis Miles F Porter
160 Some Atypical Cases in Abdominal Surgery Hal C Wyman

Northwest Medicine, Seattle, Wash

August

161 Address Washington State Medical Association Frantz H Coe
162 The Clean Milk Problem Kenelm Winslow

Colorado Medicine, Denver

August

163 Acute Otitis Media and Mastoiditis Recent Cases Wm C Bane
164 Tuberculosis in Its Relation to Public Health C E. Cooper
165 The State Board of Health and Tuberculosis J N Hall

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

The Practitioner, London

September

1 *Tremors F W Mott
2 Total Enucleation of the Prostate for Radical Cure of Enlargement of That Organ P J Freyer
3 *The Diagnostic Value of Hemiplegia of Gradual Onset as a Sign of Cerebral Tumor R T Williamson.
4 Diagnosis of Pulmonary Tuberculosis in Infants and Young Children S V Pearson
5 *Ulcus Carcinomatosum B G A. Moynihan
6 *Some Distinctions Between Hysteria and Neurasthenia and Their Association with Other Diseases. W L. Ascherson
7 *An Unusual Variety of Pleurisy in Children C Riviere
8 Paralytic Deformities and Their Modern Treatment J Jackson Clarke
9 Recent Work in Anesthesia J Blumfeld

1 **Tremors.**—Mott classifies the tremors arising in disease as follows 1 Organic disease of the nervous system 2 Tremors due to poisoning 3 Tremors in infectious diseases 4 Neuropathic tremors of degenerates 5 Tremors of neuroses (*a*) exopthalmic goiter, (*b*) paralysis agitans, (*c*) neurasthenia, (*d*) hysteria No classification is quite satisfactory Very often the tremor is polymorphic—at one time, or in one case, existing only during repose, in another disappearing during rest Several diseases may present a fine vibratory tremor, such as Graves' disease, neurasthenia, emotionalism and alcoholism The author believes that tremor is due to a disturbance of the normal innervation currents passing from the spinal motor neurons to synergic groups of muscles, whether these are in action or in passive tonic contraction A functional or organic disturbance of the nervous structures which regulate and adjust the outflow of the innervation currents from these spinal motor neurons would serve as a cause of tremor Tremors should be investigated by a consideration of the following questions 1 Are the tremors local or general? 2 Are they continuously present, or only transitory and called for by certain circumstances, such as emotion, attention, irri

tation or bodily fatigue? 3 Do they occur in the part at rest? Do they cease during sleep? Are they provoked by intentional movements? 4 Is the amplitude of the oscillations extensive or not—in other words, is the tremor coarse and obvious or fine and only discoverable by careful examination? 5 Is the rhythm quick (8 to 9 oscillations a second) or slow (4 to 5 oscillations)?

3 Hemiplegia With Cerebral Tumor—Williamson calls attention to the value of hemiplegia of gradual onset as a sign of brain tumor, even when optic neuritis is absent, or when optic neuritis, headache, and vomiting are all absent Stated in other words—provided there are no indications of cerebral abscess—progressive hemiplegia, or hemiplegia of gradual onset, in which weeks or a few months elapse before the paralysis is complete, may be regarded as strong evidence of cerebral tumor even when optic neuritis is absent, or when optic neuritis, headache and vomiting are all absent.

5 Ulcus Carcinomatosum.—Moynihan reports one case of malignant disease of the stomach in which both the clinical history and microscopic examination showed that the origin of the growth was a chronic ulcer

7 Unusual Variety of Pleurisy in Children—Riviere reports six cases of loculated effusion occurring over the middle lobe and closely simulating other pathologic changes occurring in children in the same situation, such as pneumonia with subsequent effusion at the base, fibrosis of the middle lobe, pulmonary or glandular tuberculosis, pulmonary collapse and chronic lung disease in the opposite side of the chest, either tubercular or bronchiectatic in nature The *diagnosis* was *not* confirmed with the exploring syringe in any of these cases, the author not deeming such a measure justifiable under the circumstances

Intercolonial Medical Journal of Australasia, Melbourne.

July 20

10 Clinical Examination of the Blood R R Stawell
11 *Two Cases of Splenectomy R A Stirling
12 *Six Cases of Splenic Anemia in One Family J W Springthorpe
13 Notes on a Case of Splenic Anemia H Sexten
14 Notes on a Case of Leucocythemia Alex Lewers
15 Notification of Consumption A. Jefferis Turner

11 Splenectomy—Stirling reports two cases of splenectomy for splenic pseudoleukemia that recovered from the operation, but makes no mention of their subsequent history Both cases were alive one month after operation, and the blood findings had improved remarkably The red cells in one case numbered 4,820,000, and in the other 4,600,000, leucocytes, 8,000, hemoglobin, 85 per cent The author considers the following indications for splenectomy Malarial spleen, splenic pseudoleukemia, splenic leukemia, Banti's disease, wandering spleen, abscess of the spleen, rupture, sarcoma, and possibly hydatids of the spleen

12. Six Cases of Splenic Anemia—These six patients stood in the relationship of three sisters and one brother, and the latter's son and niece. Two brothers and ten cousins have not been examined to determine whether they are or are not affected There was no family history of congenital syphilis or of acquired syphilis, except in one instance The ages of the patients were 28, 19, 23, 30, 7 and 10 respectively Splenectomy was performed in two of the cases who were still doing well one year after the operation.

Australasian Medical Gazette, Sydney

July 20

16 Presidential Address Melville Jay
17 *Alexander's Operation on the Round Ligaments W J Stewart MacKay
18 Presidential Address. A. Andrews
19 *Early Operation in Typhoid Perforation A. Jefferis Turner
20 *Gunshot Wounds in the Abdomen W A Verco
21 Gunshot Wound of Liver, Aorta Spine Survival for 33 Days. B. Poulton
22 Glioma of the Spinal Cord. J McDonald Gill.
23 Two Cases of Macrocephaly A S Joske
24 *The Recent Epidemic of Infantile Paralysis R B Wade.
25 *Ibid W F Litchfield
26 *Epidemic Polyneuritis Patrick Blackall
27 *An Unusual Case of Pneumothorax. W Morrison.

17 Alexander's Operation.—McKay describes, in full, Alexander's operation and concludes as follows Retroflexion of the uterus in virgins and married women when there is no prolapse and when there are no adhesions present is the condition for which this operation is most suitable Retroversion of the uterus he considers a suitable condition, for, though a retroversion may cause no symptoms, still if the uterus is allowed to remain in its abnormal position the abdominal pressure may in time convert the retroversion into a prolapsus or a retroflexion If after performing the curettage he finds the uterus retroverted he shortens the ligaments as a routine practice If with retroflexion or retroversion there is slight prolapse of the uterus, shortening the round ligaments is a good operation when used in conjunction with amputation of the cervix and colporrhaphy This allows the uterosacral ligaments (the chief supports of the uterus) to regain their tone In well marked cases of prolapsus the operation may be done if the woman is in the child bearing period, if the menopause is passed, or if near at hand, ventrofixation is the proper operation for severe prolapse, though of late he has adopted a plan of removing the uterus by vaginal hysterectomy It is such an easy matter to explore the ovaries and tubes through the internal ring that he has adopted this method in preference to the median incision when he wishes to remove a small ovarian cyst or a hydrosalpinx

19 Typhoid Perforation—Turner says that when a recognizable *perforation* occurs during an attack of typhoid fever an operation should be performed, and at once

20 Gunshot Wounds of the Abdomen.—Verco says that although military authorities are agreed to leave abdominal bullet wounds alone, as they find that this treatment gives the greatest percentage of recoveries, yet in civil cases, the surroundings being favorable, the abdomen ought to be opened as soon as possible after the injury, and the wounds of the viscera, if any, sewn over In military practice the wound is often inflicted with the stomach and intestines comparatively empty, and hence there is little danger of leakage. Just the opposite is true of most civil cases Again, when the stomach and intestines contain much fluid the "explosive action" of the bullet makes a much larger hole. Furthermore, it should be remembered that in the case of missiles fired at close quarters there is much tearing of the hollow organs, and not the clean penetration that occurs in a wound from a missile fired at a distance

24 25 Epidemic of Infantile Paralysis.—Wade details his observations made on 34 cases of epidemic infantile paralysis, 16 of them males and 18 females The youngest patient was 13 month olds, the oldest 7 years In each case the onset was sudden, the disease being initiated by anorexia, fever and vomiting In 2, the vomiting was absent, in 3, the attack was ushered in with fever, vomiting and diarrhea, in only 1 case were there convulsions, and this was in an epileptic, in 1, the paralysis occurred during pneumonia, in 1, during measles, and in only 1 case was there apyrexia The fever in each case persisted for from four to ten days, ranging between 100 and 102. The most marked symptom was pain in the affected limbs, and this was present in 28 out of the 34 cases. Marked tenderness existed in the affected muscles and persisted for some time, in one case lasting two months, and in most cases from three to four weeks In only two cases was tenderness absent The muscles of the limbs which were affected in all cases, either alone or in conjunction with others, belong without exception to the extensor groups, and were the trapezius, supraspinatus and infraspinatus, deltoid, triceps and extensors of the fingers in the upper limb, while in the lower were the quadriceps, peronei and extensors of the foot. The flexors and adductors were never involved alone, but only as a part of the general paralysis of the limb With the onset of paralysis the affected muscles became limp and flabby, but no wasting was noticed A certain amount of recovery is the rule, but in every case there are some muscles or groups of muscles that show no indication of it Recovery is slow, does not begin until about six weeks afterward, and in some cases improvement is still going on after four months The superficial skin reflexes and the knee jerks were present or not, according as their corresponding muscle was paralyzed or not. Kernig's sign was present in 3 cases, in each case the erector spinæ

was involved During the acute attack, before the onset of the paralysis, the essential factor to help in arriving at a diagnosis is the tenderness of the muscles After the appearance of the paralysis, it has to be distinguished from multiple neuritis, which may be done by its acute onset, the want of symmetry and the permanency of the paralysis The treatment must be expectant When the paralysis is established, massage and the use of the constant current is indicated, but must be delayed until the tenderness has become diminished

Litchfield gives a brief summary of 25 cases observed by him The treatment consisted of keeping the paralyzed limbs warm, massage and measures to prevent deformity, the latter in some cases necessitating the use of splints

26 **Epidemic Polyneuritis**—Blackall reports six cases of epidemic polyneuritis, all between the ages of 3 and 18 The disease comes on gradually The patient feels out of sorts for one day, and the next is very ill and complains of headache Vomiting now usually comes on, together with pains in the abdomen, more especially in the neighborhood of the cecum The tongue is thickly coated and the bowels are constipated Temperature, 101 or 102 Pulse is slightly and the breathing considerably accelerated At this stage of the attack it is apt to be mistaken for appendicitis, but there is an entire absence of muscular rigidity when pressure is made over the seat of pain A day later the vomiting is less severe or gone, the pain in the abdomen is less, but pains are felt all over the body, more especially in the limbs At this stage the disease simulates subacute rheumatism, but is differentiated by the absence of swelling or heat or weakness locally, and the absence of pain in the joints. The pains in the limbs become less, but the loss of muscular power becomes absolute The reflexes are lost The *tache méningéale* is well developed There may be retention of urine. The breathing is short and gasping and is entirely diaphragmatic The patient speaks with difficulty The temperature remains up from a week to three weeks The paralysis gradually disappears, but in three cases out of four that regain their usual health the patients are unable to extend one arm from the body, although they can flex, extend and rotate the forearm, and the power of grasp is not diminished The muscles that cover the scapula, the shoulder joint and the arm waste away, but the muscles of the forearm are not affected In two cases the right arm, and in one the left, was affected The time that has elapsed since recovery from the illness is too short to offer an opinion as to whether the paralysis is likely to be permanent

27 **Pneumothorax.**—This was a case of suppurating hydatid cyst, about the size of a small orange, filled with daughter cysts

Presse Médicale, Paris.

28 (No 63) *Les indications de la cure de déchloruration A Javal
29 *De la nécessité de l'enseignement obligatoire de l otologie dans les facultés de médecine A Politzer
30 Assimilation légale des maladies professionelles aux accidents de travail J P Langlois
31 *La diète dans les néphrites Köster Abstract
32 *Diagnostic différentiel de la fièvre jaune (yellow fever) M A. Lengua Abstract.
33 (No 64) *Le rôle des leucocytes dans l absorption et l'élimination des substances étrangères à l organisme (of foreign substances) M. Labbé
34 *Le levurargyre. L Jullien
35 L insuffisance respiratoire traitement par la gymnastique et la ré education respiratoires G Rosenthal
36 Report of Seventh International Congress of Otology Bordeaux, August 1-4
37 *Mosquitoes on Ships J Dupuy Abstract.
38 (No 65) The Balance Sheet of Radiotherapy in Cancer P Desfosses and G Haret.—Le bilan de la radiothérapie dans le cancer
38½ *Les fausses perforations typhiques (simulated) Rochard Abstract.
39 Recherches sur la sensibilité vibratoire G Marinesco
40 (No 66) L'assistance médicale indigène à Madagascar L D Anfreville
41 *Du danger de la mort apparente Icard (Marseilles)
42 La fièvre bilieuse hemoglobinurique, existe-t elle en Algerie? Gros.
43 Report of Fourteenth French Congress of Neurology and Psychiatry, Pau, August 1 7 (Commenced in No 65)
44 (67) Yellow Fever According to Most Recent Works. J Sanarelli (Bologna) —La fièvre jaune etc
45 Action des rayons x sur le sang leucémique E. Aubertin and E Beaujard
46 La cellule nerveuse normale et pathologique Altérations histologiques des centres nerveux dans les délires toxi infectieux des alcooliques le délirium trémens et le délire aigu H Carrier Abstract of Lyons thesis

28 **Indications for Dechloridation**—Dechloridation or suppression of the ingestion of salt is merely treatment of a single symptom, the retention of salt in heart or kidney disease But this retention has so many consequences that it is of great clinical importance, especially in Bright's disease and also in cases of cardiac edema, ascites, hyperchlorhydria and even in certain cutaneous affections with exudation Javal gives the detailed history of 2 patients with severe Bright's disease under the influence of intermittent dechloridation The curves are instructive in several respects They show that theobromin is valuable as an adjuvant but is unable to take the place of dechloridation Also that the milk diet is unnecessary—*all that* is needed is a diet free from salt This alone will frequently accomplish all that is needed or required and any medication is superfluous and hence more or less harmful The changes in the body weight parallel the fluctuations in the salt retention Daily weighing is thus an important means of detecting slight edema and its preliminary phases, long before they become clinically evident Abrupt increase in weight is pathognomonic of retention of salt and its retinue of fluids Each 5 or 6 gm of salt retained holds back with it a liter of water, equivalent to a kilogram of weight that is, 2 2 pounds By daily weighing we learn the exact condition of the retention of salt and can regulate the amount of salt allowed in the diet to correspond with the amount retained

29 **Otology in the Medical Curriculum**—Politzer's article was one of those presented to the recent International Congress of Otology, which voted affirmatively on his conclusions These were to the effect that every faculty of medicine should have a chair of otology and that it should be made one of the compulsory branches of medical instruction

31 **Diet in Nephritis.**—Köster's article was published in 190 and proclaims the necessity for a strict milk diet in acute nephritis, in case of uremic symptoms and during exacerbations of chronic nephritis When the excretion of albumin and the sediment of the urine has attained a fixed amount, the régime can be varied without danger He advises interposition of a few days of milk diet occasionally

32 **Differential Diagnosis of Yellow Fever**—Lengua comments on the difficulty of differentiating a severe case of pernicious malarial fever from fulminating yellow fever He describes a case in which a man previously healthy suddenly developed symptoms typical of fulminating yellow fever, with the sole exception that there was no icteric aspect This latter symptom, however, is not invariable in yellow fever He diagnosed the case as one of pernicious malaria solely from the antecedents of the case The fever had come on suddenly two weeks after working in a marshy field, and symptoms of tertian malaria had been noted in the interim, the health having always been good before this time. He rapidly recovered under vigorous quinin medication

33 **Absorption and Elimination by Leucocytes of Foreign Substances.**—Among the points emphasized in this study of the rôle of the leucocytes in respect to foreign substances, we note that Maurel affirms that the amount of a poison necessary to kill the animal is the same proportion as is necessary to kill the single leucocyte Opium paralyzes the leucocytes and prevents phagocytosis, consequently it is illogical to administer it in affections in which the co operation of the leucocytes is desired The leucocytes incorporate the foreign particles and digest them if possible If not, the digestion is completed in the lymphatic ganglia where the leucocytes carry them, or the foreign particles accumulate in the ganglia if absolutely insoluble. Labbé reviews a large number of the latest theoretical and experimental researches on this subject They demonstrate that we need not hesitate to use insoluble substances in therapeutics They may act less rapidly, but they are utilized in time by the intermediation of the leucocytes, and, although somewhat late, their action is all the more durable The part played by the leucocytes in draining the system of injurious substances and transporting them out of

the organism, rehabilitates the old method of fixation abscesses as a therapeutic measure of great value in certain infections and intoxications

34 **Levurargyre.**—This term is a combination of the words meaning yeast and mercury, and is applied to a mercurial nucleo proteid extracted from brewer's yeast grown in a wash containing a certain proportion of bichlorid of mercury It thus combines the properties of yeast and mercury and seems to display therapeutic action against the general cutaneous manifestations of syphilis Jullien qualifies the clinical results obtained with this new product as very encouraging

37 **Ships and Mosquitoes**—Dupuy's investigations showed that both steam and sailing vessels are liable to have mosquitoes blown or brought on board They find congenial lurking places in the cabins and hold. Mosquitoes bred on board can not be infected, but those that come on the ship in an infected port are liable to be dangerous to man He advises that ships should dock where they would be inaccessible to mosquitoes, and also that doors and windows should be kept screened, especially toward evening As soon as the ship is in the open sea, pyrethrum powder should be burned in the cabins, and they should be energetically aired and ventilated The Clayton apparatus should be used in the hold, and again on arriving

38½ **Simulated Perforation in Typhoid.**—The classic arguments in favor of operating in case of typhoid perforation are re enforced by Rochard's experience with a case in which the assumed perforation had no existence in fact, but the laparotomy had evidently a curative action A convalescent from typhoid suddenly presented the typical syndrome of intestinal perforation, and was operated on the third hour The large intestine, duodenum, stomach, and gall bladder were carefully examined but found apparently sound, the only abnormal appearance being exaggerated vascularization of the transverse colon Nothing further was done and the abdomen was sutured, the patient recovering rapidly without complications He cites two similar cases published in France in which at the laparotomy nothing was found to explain the symptoms of typhoid perforation, except slight redness of the small intestine in one and congestion with false membranes at the ileum in the other Rochard thinks that the congestion observed was a sign of incipient peritonitis, and that the severity of the symptoms induced was due merely to the extreme sensitiveness of the peritoneum in persons convalescing from typhoid The uneventful recoveries in these cases, the manifest curative action of the laparotomy alone, and the inevitably fatal outcome in case of unoperated true perforation impel to prompt surgical intervention

41 **Danger of Apparent Death.**—Icard of Marseilles France, has been investigating every case of resuscitation after apparent death of which he has learned during the last twelve years The lay press frequently publishes stories of this kind, but in nearly every instance inquiry of the parties interested showed that the stories had no foundation Even a single authentic case of burial alive should impose on the conscience of every physician the most scrupulous care before he signs the certificate of death Icard has collected eleven cases in which the physician's certificate of death was followed by the revival of the subject later, and another case in which there was no medical opinion The revival occurred before burial in every instance. He also knows of other cases, but they lack the strict scientific data of the series he describes in detail In one case the revival occurred in the mortuary room of a German city where the dead are kept by law until evident signs of putrefaction He includes in the list an instance personally observed A woman had taken lodgings at a hotel and sent for her lawyer to change her will He arrived and went to her room with a bell boy There was no reply to their knock, and when the door was opened she was found inert and insensible in the bed, the body cold and the limbs rigid. The police were notified, the family informed, and Dr Icard was sent for to deliver the certificate so that the corpse could be removed When he arrived, the hotel keeper met him grumbling at his delay, and urging him to sign the certificate at once, as the presence of a corpse in the hotel was ruining the business Icard found some warmth in the body, and perceptible but very faint heart beat, and the patient was soon revived Hotel keepers are in such haste to hurry a corpse out of the building that they are liable to antedate the hour of death, and the physician should be on his guard especially in such cases In another instance the physician attending a prominent citizen was convinced that death had arrived and so notified the family circle The patient had long suffered from gangrene and chronic arteritis, and in the presence of the physician all the manifestations of life gradually ceased and he was declared dead Twenty minutes later faint signs of respiration were detected, and the physician's stimulating measures restored him to life Death occurred finally forty days later In another case the attending physician had signed the death certificate, which was countersigned by the priest. The latter returned the next day to see the sick daughter of the deceased, and in passing through the room where the corpse lay on the bier he noticed unmistakable signs of life, and assisted in the woman's restoration The details of each of these twelve cases are given with names, addresses and dates In conclusion, Icard presents the provisions of the laws in France in regard to the certification of death They are very prudent and conservative, but are practically a dead letter, never being enforced according to the spirit of the regulations They provide for careful examination of the subject before the certificate of death is signed by the registered physician, and he must wait for cadaveric rigidity and putrefaction before he signs The legal interval of twenty four hours before burial is permitted should commence from the moment when the authorities are notified of the death, and not from the moment of supposed death Until the expiration of the twenty four hour interval the subject should be regarded as a sick person and not as a corpse, and treated as such The public authorities urge that every family should be instructed in the care to be given the subject until the complete expiration of the legal interval This interval may be shortened in certain cases on condition that the death has been certified with the greatest care, and that it is known to be real and not apparent Icard's study of the subject in other lands besides France shows him that death certificates are liable to be signed haphazard by physicians anywhere, sometimes without actual inspection of the supposed corpse He mentions one instance in which the certificate was signed blank and left with the mother of a sick child, for her to fill in the exact hour of death and forward to the authorities Icard has this blank certificate in his possession and regards it as a monument of inexcusable carelessness He cites Brouardel to the effect that 3 instances at least are known in which apparent death lasted a long time, but the supposed corpses were finally restored to life The subjects he mentions are the men hung at Boston and Perth, and Roger's case of revival after burial Apparent death is life under the external aspect of death Every dying person passes through this phase before death is finally complete

Semaine Médicale, Paris

47 (XXIV No 32) Editorial Comment on Jacob s Pulmonal Infusion —De la sincérité dans les observations médicales et des limites de l expérimentation thérapeutique See page 557
48 *Le chylothorax traumatique F Munch
49 *Report of Fourteenth French Congress of Neurology and Psychiatry Pau August 1 7 (Commenced in No 31)
50 (No 34) *Les formes cliniques du cancer de l estomac L Bard
51 Des troubles cardiaques tardifs consécutifs aux angines P Busquet. Abstract.
52 Hetérotopie thyroidienne E Tavel Abstract
53 Etude des abcès du foie chez l enfant (liver abscess in children) Covington Abstract

48 **Traumatic Chylothorax.**—Four of the 10 cases of traumatic chylothorax on record terminated fatally In 2 cases the effusion was spontaneously reabsorbed Others recovered after nine or ten punctures, and death in the fatal cases seems to have been due principally to the large amount of fluid—six or seven liters—found in the pleura, actually suffocating the patient Aspiration is not always successful, however one subject succumbing from inanition after the tenth puncture

Port has reported excellent results from thoracotomy in one case, and it is quite a question whether immediate thoracotomy is not the preferable procedure when the diagnosis of traumatic chylothorax is once definitely established.

49a **Localization of Motor Functions in Spine**—This was one of the subjects on the order of the day at the recent neurologic congress Addresses were presented by Sano of Antwerp, Grasset of Montpellier, and Parhon of Bucharest They emphasized the fact that much further study is needed on this subject, and also that the various theories proposed are all too exclusive

49b **The Criminal Insane**—After long discussion of this subject the congress adopted resolutions asking for the creation of special asylums for the particularly dangerous insane as an urgent necessity This would include the criminal insane

49c *Mode of Arresting Epileptic Seizure*—Crocq of Brussels has found that the clonic spasms can be suppressed and the consciousness restored by placing the epileptic on his left side during the tonic period. This method of arresting the seizure was first proposed by McConaghey of Edinburgh, and Crocq has found it successful in every instance in which he has applied it

49d **"Combined Plantar" Sign of Hysteria.**—The same author calls attention to the simultaneous abolition of the cortical plantar reflex or flexion reflex, and of the spinal plantar reflex or fascia lata reflex, which he calls the "combined plantar reflex" He regards its abolition as pathognomonic of hysteria

49e **Radium in Nerve Therapeutics.**—Foveau de Courmelles describes numerous experiences to show the great sedative power possessed by radium It soothes pain, whether organic or cancerous, nervous or neuralgic Some cases of facial neuralgia and one of sciatica, long rebellious to other measures, yielded to the action of the radium rays The girdle pains in 2 cases of ataxia were cured, one by the radium and the other by the Röntgen rays The subjects were not informed in regard to the nature of the treatment, so he thinks that suggestion may be excluded.

49f **Sodium Nitrite in Tabes.**—Oberthur has cured the pains in rebellious cases of tabes by sodium nitrite given by mouth or subcutaneously

50 **Clinical Forms of Cancer of the Stomach.**—Bard proposes tentatively a classification of gastric cancers which he thinks will aid physicians in prognosis and in their decisions, and will improve the results, both immediate and remote, of surgery He divides the 3 main groups, pyloric, extra pyloric and sub peritoneal cancers, into the subgroups of typical, abortive and latent The abortive forms are the most puzzling In the pyloric group it includes the annular, colloid cancer, inducing insufficiency of the pylorus instead of stenosis The latent form includes the submucous cylindroid cancer or Brinton's plastic linitis, which substitutes esophageal symptoms for the ordinary pyloric ones The abortive form of extra pyloric cancer includes the painful dyspeptic form (generally an ulcer cancer at some distance from the pylorus), and the cachectic form without gastric phenomena. The latent form of extra-pyloric cancer includes the variety simulating pernicious anemia, generally owing to frequent slight hemorrhages, and the variety inducing symptoms of stenosis The cancer in the latter case may be near the cardia, and the secondary stenosis may simulate cancer of the esophagus, or it may be gastro colonic, simulating cancer of the colon and terminating in a gastro colonic fistula It may, further, be the cancerous form of hour glass stomach, or it may be a gastrohepatic cancer th extensive perigastric adhesions, fixation of the liver and ent of the stomach from a longitudinal stricture, simu- a chronic subhepatic peritonitis The latent form may early and predominating symptoms in remote organs, in the liver, simulating primary cancer of the liver or osis, or it may assume a peritoneal form, simulating tuberculous peritonitis or portal cirrhosis The subperitoneal fo rare There is usually a palpable tumor, and the indicate peritonitis without apparent partici stomach Secondary cancers in the stomach generally occur in this locality He has observed several of this kind of thyroid, and some of ovarian origin He urges that the statistics of cancers operated on should be classified according to this or some similar plan By this means it would be possible to learn which forms are legitimate subjects for intervention, and which are best left alone He is convinced that operative results will be found particularly encouraging in certain cases of scirrhous annular pyloric cancers, in ulcer cancers, in the extra pyloric variety of the dyspeptic type and in plastic linitis, no matter how extensive He reviews in detail the indications for the various palliative and radical operations concluding with the remark that the latent gastro colonic variety of cancer might suggest benefit from an artificial anus, but this would entail only disappointment

Berliner klinische Wochenschrift.

54 (XLI, No 32) Fall von familiärer Tabes dorsalis auf syphilitischer Basis Tabes bei der Mutter und ihren zwei hereditär syph Töchter (mother and 2 daughters) M. Nonne
55 *Polymyositis und Polyneuritis bei Morbillen (measles) W Jessen and E Edens
56 Das Rhinophyma und deren operativen Behandlung S L. Bogrow (Moscow)
57 Fracture of Neck of Femur in Child. R. Lammers.—Fall von Schenkelhalsfraktur beim Kinde
58 Belladonna Poisoning in Ophthalmic Practice. J Fejer (Budapest)—Ueber Belladonnavergiftungen in der augenärztlichen Praxis
59 (No 33) *Stones in Gall Bladder and Their Treatment. Franz König—Steine in der Gallenblase und deren Behandlung
60 *Recent Progress in Dentistry Warnekros—Ueber neuere Fortschritte in der Zahnheilkunde
61 Metastatische Sarkomatose der Lungen mit Epikrise, diagnosticirt auf Grund des mikroskopischen Befundes der Primärgeschwulst. S S Burt (New York)
62 *Weitere Erfahrungen zur Scopolamin Morphin Narkose (further experiences) B Korff (Freiburg)
63 (No 34) *Talma Operation S Talma (Utrecht)—Chirurgische Oeffnung neuer Seitenbahnen für das Blut der Vena Portæ
64 Folliclis und Erythema induratum Bazin A. Alexander
65 The Art of Increasing or Diminishing the Body Weight at Will M Einhorn (New York)—Die Kunst das Körpergewicht nach Belieben zu erhöhen und zu erniedrigen.
66 *Important Roentgen Findings in Case of Shot in Eye. A Kohler—Schrotschuss ins Auge
67 Electro-diagnostische Untersuchungen mit Condensatoren Entladungen (examination with condenser discharges) L. Mann (Breslau) (Commenced in No 33)

55 *Polymyositis and Polyneuritis in Measles.*—Jessen describes in detail a case of measles diagnosed the sixth day The sixteenth day the symptoms indicated acute articular rheumatism, but these rheumatoid manifestations were evidently the first indications of a severe, acute polymyositis, which he attributes to the measles Edens describes a case of polyneuritis due to measles The illness began with stormy onset, soon complicated by bronchopneumonia, and later with otitis media, followed by the polyneuritis He knows of only one other case of polyneuritis due to measles on record

59 **Treatment of Stones in the Gall Bladder**—König reports the operative treatment of the milder forms of cholelithiasis requiring surgical intervention, as practiced at the Charité clinic He describes 7 cases to show the variety of operations devised to meet individual indications

60 **Hygiene of the Teeth**—As recent progress in dentistry Warnekros describes electrolysis to prepare a tooth for filling A current of from 1 or 2 milliamperes is passed through the tooth, wet with salt solution, for five minutes, a temporary filling is applied and the electrolysis repeated a few days later This sterilizes the tooth completely, ready for the filling The bactericidal action is due to the generation of nascent chlorin and oxygen at the positive pole He advises the alternate use of hard and soft tooth brushes, of varying shapes The use of a single brush or of a single shape causes certain parts of the teeth and gums to be unduly scrubbed and others neglected, with abrasions in some parts Energetic use of the teeth in chewing is the best mode of cleansing them He urges physicians to order their patients in prolonged illness to chew some indifferent substance, and in all cases to chew vigorously The spectacle of a neglected mouth, a hot bed for bacteria, which is so frequently observed in the sick, would become rarer He also advises physicians to order more solid food for children who still have their first dentition The best plan

for the development of the teeth would be to have weakly children always given hard, black bread, but as this is impracticable, hard slices of chocolate or the like might be used to advantage. This might hasten the decay of the milk teeth, but would aid in the strong development of the permanent teeth He observed in Egypt that the first dentition suffered from caries, but that the permanent teeth were much more perfect than among corresponding European children He attributes this soundness of the permanent teeth to the constant practice of sucking and chewing sugar cane It does not prevent the decay of the milk teeth, but insures stronger permanent teeth He pays a high tribute to American dentistry, remarking that America still leads the world in dentistry in the present as in the past. In conclusion, he urges the general adoption in hotels, depots and other public places and private houses of cuspidors fashioned on the principle of dentists' basins with a rinsing jet of water Prohibition of spitting in public places, and the uninviting aspect of the cuspidors now in use may lead to the swallowing of infectious saliva or sputa. Dentists will gladly co operate with surgeons and hygienists and others in this and similar questions, and their advice may frequently prove very valuable

62 **Further Experiences with the Scopolamin-Morphin Narcosis.**—Korff summarizes the results observed in 200 cases of this narcosis In the dosage he uses (see THE JOURNAL, xli, page 1568), it is free from danger to heart or lungs No disturbances on the part of kidneys, liver, digestive tract, etc, have ever been observed The general practitioner can employ it without a special anesthetist The action of the narcosis varies with different individuals Sometimes a further dose of 0002 3 gm. scopolamin and 005 to 01 gm morphin may be required, or chloroform or ether The chief advantages are the absence of the tendency to vomit during and after the operation. Also that fluids can be ingested immediately before the narcosis and directly afterward. The precaution must be observed not to allow the tongue to fall back and obstruct the breathing, especially in toothless subjects, during the profound sleep during and after the operation, the result of the narcosis. Drawing the lower jaw forward draws up the tongue and obviates this danger

63 **Talma on the Talma Operation.**—Three questions are discussed in this communication Does the collateral deviation of the blood induced by the operation affect cirrhosis of the liver favorably? Can the *omentopexy* reduce the danger of hemorrhage from the overfilled veins? and can the establishment of collateral circulation in case of portal thrombosis compensate the worst of the circulatory disturbances? Talma reports experiences which compel an affirmative answer to the first two questions In respect to the third question, he cites a case of pronounced phlebo sclerosis of the portal vein, the probable cause of the thrombosis observed It is the only case of which he has knowledge from which an opinion can be formulated in regard to the significance of omentopexy in case of occlusion of the portal vein in man. The patient was a man of 30, who had been subject for fourteen years to atrophic, annular cirrhosis of the liver, with ascites but no icterus, attacks of violent pain from fibrous splenitis and caput Medusæ. Omentopexy was performed, and for two months the patient was free from ascites The collateral vessels became much enlarged at the point of attachment and around the esophagus Then the ascites recurred from portal thrombosis, a consequence of old phlebo sclerosis and partial occlusion of the portal vein with an old organized thrombus In Umber's case the portal vein had been congenitally occluded, and likewise the splenic vein, but the collateral circulation had always been sufficient, and no disturbances had been noted The liver was sound The omentum was adherent to the liver, kidneys, spleen, intestines and abdominal wall, and there were numerous adhesions between the intestines, etc. The occlusion of the portal vein was a necropsy surprise, the collateral circulation having obviated all disturbances until fresh thrombosis occurred in the collateral circulation The conclusions which Talma draws from this and his own case are that it is a good plan to make the omentopexy multiple, that is, to fasten the omentum at several points Another case of recent thrombosis in an old phlebitis has recently been described in Holland, remarkable on account of the hyperemia of the abdominal wall and the development of wide veins at the points where the spleen and diaphragm had become adherent Stephan has also reported a case of acute thrombosis of the portal vein followed by fatal necrosis of a large part of the intestines Comparing the findings in this case with those in the case of long established occlusion of the portal vein, shows better than any words the importance of collateral side routes circulation for the blood in case of liver cirrhosis

66 **Radiogram of a Shot in the Eye**—Köhler obtained a good radiogram of the shot, but when the subject looked upward the rays cast shadows of two pieces of shot, when in fact there was only one. This confirmed the assumption that it was located in the eyeball

Deutsche medicinische Wochenschrift, Berlin and Leipsic

68 (XXX, No 32.) *Das Trauma als Aetiologie bei Aortenklappen Insuffizienz F Sinnhuber (Berlin)
69 Fate of Nucleinic Acid Introduced Into Circulation A Schittenhelm and E Bendix—Schicksal der in die Blutbahn eingebrachten Nukleinsäure
70 *Ueber Misch Infektion durch Typhus- und Paratyphus Bazillen H Conradi
71 *Ueber die chirurgische Behandlung der otogenen eitrigen Cerebrospinal Meningitis E P Friedrich (Kiel)
72 *Ein neuer Gesichts Punkt bei der Behandlung der Aphonia spastica. E Barth (Frankfurt a O)
73 Zum 70 Geburtstag von Ewald Hering (seventieth birthday) P Grützner
74 (No 33) Zur Typhus-Diagnose. K Walter
75 *Ueber aktive Immunisierung des Menschen gegen Cholera R. Bertarelli
76 Ueber die Agglutination des Milzbrand Bacillus (anthrax) A. Carini
77 *Beiträge zur Methodik der klinischen Stuhluntersuchung (examination of stools) E v Koziczkowsky
78 *Der heutige Stand der Neuron Theorie. A Bethe.
79 *Diabetes insipidus, behandelt mit Strychnin Injektionen B Leick.
80 Gout in Boy from Infancy R. Lunz (Moscow)—Fall von Gichterkrankung bei einem 7 jährigen Kinde
81 *Mein 60 bronchoskopischer Fremd Körper Fall G Killian.
82 *Ueber eine neue Methode der Behandlung der chronischen Urethritis. H Lohnstein
83 Xiphophagus Duplicitas parallela H Singer (First part in No 27)
84 Progress in Appliances for the Care of the Sick. P Jacobsohn—Fortschritte der Krankenpflegetechnik.

68 **Trauma in Etiology of Aortic Insufficiency**—Sinnhuber thinks that far too little attention has been paid hitherto to trauma as a factor in the production of valvular affections The text books suggest it only as a bare possibility, and very few instances have been published, among them Hektoen's case (1892) of rupture of the aortic valves During the last year and a half Sinnhuber has had occasion to observe 3 cases at the Berlin Charité in which the symptoms of aortic insufficiency were traceable to a contusion or fall on the chest Two of the patients applied for relief without referring to any traumatism in their antecedents, and it was only learned by direct questioning The particulars are detailed, and also the post mortem findings in a fourth case The latter was diagnosed as traumatic aortic insufficiency, but the necropsy revealed merely a chronic, recurring endocarditis The patient was a man of 38, previously healthy, whose business was the moving of safes With 8 other men he had carried a very heavy safe up a flight of stairs, then walked a mile home and slept for several hours When he awoke he experienced progressive dyspnea, and the next day much pain in the abdomen and in the region of the stomach, and vomited all that he ingested, the vomitus was blood streaked. The dyspnea became so excessive that he entered the hospital the tenth day Traumatic aortic insufficiency was diagnosed, but the necropsy revealed merely chronic, recurring endocarditis Notwithstanding these negative findings in this case, Sinnhuber thinks there can be no mistake in the diagnosis of the 3 other cases One man had been devoted to athletics and had been found perfectly sound when examined eleven months before the accident, while four weeks after, a severe heart defect was discovered He presented the symptoms of severe aortic insufficiency, with hypertrophied left ventricle, and other symptoms visible even from a distance. The second patient was a cabinet maker of 42, who had worked steadily until the accident Two months afterward he was unable to work at all on account of symptoms

secretion of pancreatic juice and possibly also of the bile The conclusions are all favorable to the administration of hydrochloric acid, both transiently and continuously, in addition to dietetic measures, in all cases of hypochylia or achylia gastrica when the appetite is depressed, and there are fermentations in the stomach, with diarrhea The digestive power was wonderfully increased, in many cases by giving from 100 to 300 c c of a one tenth normal hydrochloric acid solution When pepsin was added it was in the proportion of 5 gm to 100 c c of the same. Some of the patients drank the solution through a glass tube, others had it introduced through a stomach tube None complained of the taste

87 **Physiologic Study of Natural Gastric Juice (Pigs)** — Erb argues that the gastric juice derived from pigs by a Pawlow fistula can never be a physiologic secretion The operative intervention renders it always more or less pathologic

88 **Pressure in the Right Auricle in Valvular Defects.**— Horner has been giving the Gaertner test a thorough trial on healthy subjects and on those with valvular defects It was described in these columns, page 687 of vol xlii The arm is lifted slowly and passively, and the point at which the veins collapse is marked by comparison with the standards Gaertner has established Horner's tests confirm the great value of this new technic, with certain restrictions He reports a number of cases of mitral incompetency, etc, to show the characteristic findings in various valvular defects

92 **Role of Hyperemia and Age in Origin of Tumors**—Rössle proposes a theory to account for the origin of tumors by variations in the cells of the organism caused by age and congestion Histologic and physiologic study of old age is the most promising line for research on the origin of malignant cancer

Gazzetta degli Ospedali, Milan.

Last indexed page 850

94 (XXV, No 49) Alopecia areata in seguito a trauma V Ramazotti
95 *Infezione puerperale ed iniezioni endovenose di sublimato corrosivo G Fabio
96 *Contributo alla cura della pneumonite cruppose colla digitale ad alte dosi A Amucano
97 (No 52) Intorno alla radio-activita dei fanghi e delle acque di Abano De Giovanni
98 *Dell' importanza della siero-agglutinazione nella diagnosi precoce della tubercolosi primitiva dell' orecchio medio (of middle ear) A De Simoni
99 Study of Bullet Wounds of Brain A Amantini —Contributo allo studio delle lesioni cerebrali per ferita d arma da fuoco
100 (No 58) Contributo alla setticemia pura da tetragono U Baccarani
101 Il reflesso di Babinski S Ceraulo
102 *Limitazione dell area cardiaca mediante il palpamento G Bassi
103 Contributo alla splenoplessia. A Ceccherelli

95 **Sublimate in Puerperal Infection.**—Fabio describes a case of severe puerperal infection, apparently in the last stages when first seen He injected intravenously 3 mg of a 1 per thousand solution of sublimate, with local measures The temperature declined a little the same evening and there was slight abatement of the symptoms Six intravenous injections were thus made in the course of a week, after which the patient was soon restored to health, an extensive ulceration of a laceration of the vagina having healed completely [Bidoli has recently published a similar case of recovery under sublimate as a last resource (*Policlinico*, July 9) The patient was apparently moribund —ED]

96 **Digitalis in Croupous Pneumonia**—The patient had previously passed through four attacks of croupous pneumonia between the ages of 16 and 33 They had been treated by the ordinary measures, with the usual protracted course At 34 another attack occurred and 3 and 4 gm of digitalis leaves were infused and administered on following days The disease was arrested and recovery rapidly ensued, in marked contrast to the preceding attacks, and notwithstanding the fact that the onset had been stormy Digitalis evidently has different effects on a healthy and a pneumonia subject It may have some specific bactericidal action on the causal germ, or the intense leucocytosis induced may have the same result, or the leucocytes may be rendered more resistant Carbone insists that pneumococcus infection is due to an intoxication of the system by absorption of the products of the elements of the blood, destroyed by the pneumococci If this be true, then treatment with digitalis, to enhance the resisting power of the leucocytes, is the logical indication, and experience is crowning it with success

98 **Sero-Diagnosis of Primary Tuberculosis of the Middle Ear**—De Simoni cites 3 cases to show how valuable the agglutination test may prove long before other signs are available. He tabulates the findings in 14 other cases in which the test was negative, and the course of the affection confirmed its non tuberculous character

102 **Palpation of the Heart Outlines**—Bassi urges that greater reliance should be placed on the palpation findings in the diagnosis of heart disease He has found palpation a particularly valuable means of controlling percussion findings The heart action in children is so vigorous that palpation gives very significant results in their case He adds two diagrams to illustrate the findings in severe cases of organic mitral defect The heart area determined by palpation coincides with the area of relative dullness in case of long established mitral defects, while it coincides with the area of absolute dullness in recent cases The heart can not be outlined by palpation in non febrile adults free from heart affections.

Russkii Vratch, St. Petersburg

Last indexed pages 487 and 851

104 (II, No 43) O endotheliom pleuri i eya histogeneseye. A I Burtzeva (Commenced in No 42)
105 Differentiation of Cirrhosis of Liver and Angiocholitis G I Bolintzeff —Zheltzie tzirrosi i angiokholiti. Otzyenka ikh priznakov v chirurgitcheskom otnoshenii
106 Case of Ovarian Pregnancy G I Olekhno —Slutchai vnyematotchnoi vaitchnikovoi beremennosti
107 Preventive Legislation L Y Jacobsohn —Kakimi myerami slyeduet borotsya s rasprostranieniem veneritcheskikh bolyeznei sredi utchastchikhsya?

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers

THE SUPPRESSION OF TUBERCULOSIS Together with Observations Concerning Phthisiogenesis in Man and Animals and Suggestions Concerning the Hygiene of Cow Stables and the Production of Milk for Infant Feeding with Special Reference to Tuberculosis By Prof E von Behring University of Marburg Authorized Translation by Charles Bolduan, M D First Edition First Thousand. Cloth Pp 85 Price. $1 00 New York John Wiley & Sons London Chapman & Hall Limited 1904

FOOD INSPECTION AND ANALYSIS, for the Use of Public Analysts Health Officers Sanitary Chemists and Food Economists. By Albert E Leach S B Analyst of the Massachusetts State Board of Health First Edition First Thousand Cloth Pp 787 With 120 Figures and 40 Full page Half tones Price, $7 50 New York John Wiley & Sons. London Chapman & Hall, Limited. 1904

A TREATISE ON OBSTETRICS For Students and Practitioners By Edward P Davis, A M, M D Professor of Obstetrics in Jefferson Medical College New (2d) Edition, Thoroughly Revised and Much Enlarged With 274 Engravings and 39 Full page Plates in Colors and Monochrome Cloth Pp 800 Price, $5 00 net. Philadelphia Lea Bros & Co 1904

A TEXT BOOK OF PHYSIOLOGICAL CHEMISTRY For Students and Practitioners of Medicine By Charles E Simon M D late Resident Physician Johns Hopkins Hospital New (2d) Edition Revised and Enlarged Cloth Pp 500 Price, $3 25 net. Philadelphia and New York Lea Bros & Co

THIRTY EIGHTH ANNUAL REPORT OF THE COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM for the Fiscal Year Ending June 30 1904, Washington, D C Paper Pp 35 Washington, D C Government Printing Office 1904

SEVENTEENTH ANNUAL REPORT OF THE SUPERINTENDENT OF THE ST LAWRENCE STATE HOSPITAL to the State Commission in Lunacy For the Year Ending Sept 30, 1903 Paper Pp 52 Albany J B Lyon Company 1904

THIRTIETH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN for the Fiscal Year Ending June 30 1902 Cloth Pp 254 Lansing Mich Robert Smith Printing Co 1903

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS Vol XVI For the Year 1903 Cloth Pp 483 New York Rooney & Otten Printing Co 1904

FIFTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA Jacksonville Fla Feb 9 1904 Paper Pp 203 Jacksonville The Drew Press

OM FTISENS BEHANDLING Paa Sanatorier Af Klaus Hanssen. Overlæge ved Bergens Sygehus. Paper Pp 40 Bergen John Griegs Bogtrykkeri 1904

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the Year 1904 Cloth Pp 503 Published by the Society 1904

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Original Articles.

PLEURAL EFFUSION IN HEART DISEASE *

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PHILADELPHIA

In a paper entitled "The Distribution and Etiology of Cardiac Hydrothorax," which was published in 189[illegible], I called attention to the fact that passive pleural effusion may occur in the course of failing compensation of the heart, before there is any tendency to external dropsy, and that this pleural effusion is very often unilateral, with a preference for the right side That paper contained an analysis of the autopsies of 75 cases of hydrothorax occurring in patients with undoubted disease of the heart muscle It was shown that in three-fourths of these cases the effusion was greater on one side than on the other, and in one-fifth the effusion was unilateral The greater amount of fluid was on the right side in three-fourths of the unequal effusions and in 10 of the 13 cases of the unilateral effusions the fluid was found in the right pleural sac

The material for my table was obtained from the notes of 2,427 autopsies contained in the records of the Philadelphia Hospital, and of the Middlesex Hospital in London I also published the clinical notes of 4 cases from the wards of Dr Stengel and Dr Packard that showed this right-sided hydrothorax In all of these cases the formation of the effusion preceded the edema, and I called attention to the fact that such effusions may precede external edema

Dr Stengel (University of Pennsylvania Medical Bulletin, 1901), took up the subject in a paper published in 1901, and gave an analysis of seventeen instances of hydrothorax which occurred in 100 consecutive cases of cardiac disease His conclusions are probably of more value than those of my first paper, although mine were obtained from the autopsies of many more cases, because Stengel's analysis was based on clinical notes of living patients, while mine were all fatal cases, for it will be readily understood that in autopsy findings the sequence of events of the morbid state can not be accurately determined Consequently it was impossible to tell from autopsy notes whether in double effusion the fluid had been unilateral at the onset or not, and it was usually quite impossible to tell whether or not the pleural effusion had preceded general edema and effusions into other serum cavities

In the 17 cases of hydrothorax that Stengel gives, the effusion was confined to the right side at some time in the course of the disease in 7 cases, 7 more were bilateral, with greater involvement of the right side, and in 3 cases the effusion was entirely left sided In 8 of Stengel's 17 cases edema was absent or slight

The literature of the subject has been fully considered in the papers by Dr Stengel and myself It is sufficient to say that several writers of text-books, including Pepper, Osler, Baccelli, and Rosenbach, state that cardiac hydrothorax is apt to occur before general edema, and is then unilateral with preference to the right side Many observers have reported isolated cases of right-sided cardiac hydrothorax, and a group of Italians, including Piazza-Martini, Villani, Lizzato Cardenelli and Peter, have called attention to the occasional occurrence of right-sided pleural effusion of a non-inflammatory nature in atrophic cirrhosis of the liver But so far as can be determined there has been no attempt made to consider the distribution or etiology of cardiac hydrothorax by an analysis of a series of cases before the subject was taken up by Dr Stengel and myself [1]

In endeavoring to obtain another series of observations on the distribution and etiology of the hydrothorax of cardiac disease, I have gone over the records of the Presbyterian Hospital in Philadelphia since 1895 In this period of nine years there have been 31 cases of hydrothorax in patients with well-marked disease of the heart muscle and enlargement of that organ Fortunately, 4 of these cases have been under my personal observation during the past winter in the wards of the Presbyterian Hospital in the service of Dr John H Musser, and I had the opportunity of examining two of these postmortem

The condition required in selecting these cases and in deciding between cases of cardiac effusion and effusion from other causes was that there should be decided evidence of myocardial disease and enlargement of the heart It was required also that the cardiac condition should be predominant, or at least a very prominent factor in the patient's condition Aneurism, tumor or any other cause for effusions was sufficient to throw out the case in question

With one or two exceptions the patients were free from fever, pain and cough The exceptions were one case of acute pleurisy occurring in a case of well-marked disease of the heart, and two cases of acute endocarditis with great cardiac enlargement and with much effusion

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders, Frank Jones and W S Thayer

[1] Beside Dr Stengel's paper the following communications concerning pleural effusion of heart disease have appeared in current medical literature since 1897 Gerhardt Pleural Effusion in heart disease Rosenbach Localized Congestions and Effusions in Cardiac Disease Münchener med. Woch No 14 1901 Germani Right sided Hydrothorax in Cardiac Disease Gazz. degli Ospedali, No 99 1900 Barie The Involvement of the Pleura in Heart Disease Semaine Médicale, 1902, No 4. Esser Pleural Effusion in Heart Disease Münchener med. Woch. No 4 1902

As has been said, every case presented distinct signs of degeneration of the myocardium with enlargement of the heart, hypertrophy and dilatation

Most of the cases had valvular lesions, with or without arterial changes, some had arteriosclerosis and nephritis, and there were two instances of acute endocarditis and cardiac dilatation in children.

In some cases all the chambers of the heart were dilated, in some all the chambers were enlarged, but the right side was mentioned as particularly affected In others the left side was the only part of the heart enlarged or was the part particularly affected

In 3 cases one or the other of the pleural sacs was totally obliterated by adhesions, and these have not been included in the tables As I have said, in one case the effusion is apparently due to acute pleurisy, and occurred entirely on the right side This gives a total of 27 cases for analysis

The effusion was at some time during the period of observation confined to the right side in 11 cases, or 40 per cent The effusion was bilateral, but greater on the right side in 4 cases, or 15 per cent It was left sided in 5 cases, or 19 per cent, and double, but greater on the left in 6, or 22 per cent The effusion was double and equal in one case, or 3 per cent, right sided in 60 per cent, left sided in 40 per cent

The figures in my first paper based on autopsy findings alone are

Right-sided hydrothorax, unilateral or greater on the right side, 41 cases, or 77 per cent, left-sided hydrothorax, unilateral or greater on the left side, 12 cases, or 23 per cent

Stengel's 17 cases of hydrothorax were practically all right sided, since 2 of the 3 left-sided effusions could be explained by the obliteration of the right sac by adhesions, and the other case was probably due to aneurism Consequently the figures in the analysis of the Presbyterian Hospital cases are not so conclusive that cardiac hydrothorax in the great majority of cases is right sided as those of Stengel or of my previous article

The Presbyterian Hospital figures, however, show that the effusion has a decided preference for the right side The figures indicate very decidedly that the pleural effusions of cardiac origin are usually unilateral or unequal Moreover, when the etiology of such effusions is considered, it will be seen that the larger percentage of left-sided effusion in the Presbyterian Hospital figures, when taken in connection with the side of the heart affected, is very suggestive and interesting

The effusion was entirely left sided at some time in 5 cases, or 10 per cent, and was double but greater on the left side in 5 more cases

That is, the effusion showed a preference for the left side in 10 cases or 40 per cent in round numbers, as contrasted with 15 cases, or 60 per cent that were right sided

The effusion was double and equal in but one instance, showing very decidedly that these pleural effusions in heart disease are unequal in a great majority of cases

A very interesting point shown in the table is that, while right-sided effusions occur with enlargement of the right heart, left-sided effusions are usually associated with enlargement of the left heart This phase of the subject will be considered more in detail in the section on etiology

It was difficult to ascertain whether the formation of the effusion preceded external edema Such cases are usually not admitted to the hospital until the severity of the symptoms are such that external edema is present to a considerable degree It is then usually impossible to fix the time at which the effusion commenced from the history of the patient

In 3 of my cases edema was absent or slight on admission, while there was considerable effusion, in 3 other cases the edema disappeared before the effusion

This small number of cases, however, together with the clinical reports in my first paper, and by the observation of Stengel, Gerhardt and others, demonstrate that such effusions may precede external edema

Various theories have been advanced to explain the formation of this unilateral or unequal pleural effusion in heart disease

Wintrich, in an article extensively quoted in my first paper, gave obliteration by adhesions of one of the pleural sacs as the most frequent cause for unilateral hydrothorax He says, however, that the effusions may rarely be one sided, when both pleura are free

Bucquoy, Saint Phillipe and Dequet insisted that the effusion was inflammatory and attributed it to pulmonary infarction on the right side Their theory, however is not supported by the researches of Gerhardt and Stengel, or by either of my lists of cases

Esser, in a recent paper, reported 3 cases of unilateral right-sided effusion without symptoms in patients with cardiac dilatation, in which autopsies showed large bronchial glands in the root of the right lung He attributed the effusion to the interference with the lymphatic circulation of the right pleura, which was produced by these glands This effusion occurred in heart disease, because in such cases the general circulation is feeble, and consequently there is a greater tendency to lymphatic stasis The improbability of this explanation is obvious Such a condition was not noted in any of the cases cited by any of the other authorities Unilateral enlargement of the bronchial lymph glands is not a common enough condition to explain a phenomenon of such regularity as the occurrence of these effusions

As is shown in Stengel's paper, right-sided effusions in dilatation of the heart are not caused by obstruction to the general lymphatic circulation produced by interference with the circulation of the superior vena cava, and hence with that of the right lymphatic duct The right lymphatic duct is protected by valves and if general lymphatic obstruction was the cause of the effusion, unilateral swelling of the arms, neck and chest would necessarily be more frequent

A group of clinicians, mostly Italians, have observed right-sided hydrothorax in cirrhosis of the liver Villani reports nine such cases of atrophic cirrhosis, with right-sided pleural effusion in two, of which the diagnosis was confirmed by autopsy He explained the effusion by assuming that in such cases inflammation of the capsule of the liver extending through the diaphragm caused a low grade of inflammation in the right pleura with effusion without symptoms He extended this theory to right-sided hydrothorax in cardiac disease He argued that in such cases of heart disease the liver is distended by passive congestion, and its capsule is subacutely inflamed This inflammation spreads through the diaphragm in the same manner as he assumed it would in cirrhosis of the liver Peter and Huchard held approximately the same view

Piazzi-Martini reported several cases of right unilateral hydrothorax in atrophic cirrhosis and explained the condition by assuming that the dilated veins of the esophageal plexus pressed on the vena azygos and interfered with the return of blood from the right pleura

The liver was noted as distinctly enlarged in four of the Presbyterian Hospital cases, and in six of Stengel s seventeen cases Four of the Presbyterian Hospital and three of Stengel's cases had ascites All of these cases, however, showed much general edema, so that the abdominal effusion may have been merely part of the general anasarca

The responsibility of the inflammation of the liver capsule in the cases of right-sided effusion is not obvious, and this theory fails entirely to account for the effusion that is confined to the left side, or greater on that side

The theory that appears to explain most satisfactorily the preference of these pleural effusions for the right side, supposes that enlargement of the right heart and especially of the right auricle can press on the root of the right lung and obstruct the vena azygos major

The vena azygos major represents the common trunk of the nine or ten right lower intercostal veins. It lies on the right side of the bodies of the dorsal vertebræ extending from the diaphragm as high as the third intercostal space From that point it arches forward and curves around the root of the right lung and then empties into the superior vena cava just before that vessel enters the pericardium It receives as tributary the right superior intercostal vein, which is the common trunk of the three upper intercostal veins The vena azygos major consequently drains the whole of the costal layer of the pleura from the right side Obstruction of this vein would, therefore, result in congestion and stasis in the whole of the right pleural sac

The vena azygos major also receives as tributary the vena azygos minor which is the common trunk of the lower four or five intercostal veins on the left side It crosses over the body of the eighth dorsal vertebra to join the vena azygos major Obstruction of the vena major would consequently cause congestion in the lower third of the left pleural sac

The vena azygos major, as it curves around and partially surrounds the root of the right lung, is in a position which renders it especially liable to compression As has been said, such obstruction would produce stasis and congestion in the whole of the right pleura and in the lower portion of the left pleura and consequently the resulting effusion in its early stage would be wholly right sided, and in its later stage bilateral but greater on the right.

In my former article I advanced the theory that right-sided pleural effusions in heart disease were produced by pressure exerted on the root of the right lung by a dilated right auricle It has been shown how such pressure would tend to compress the vena azygos major, and hence could cause a passive effusion on the right side, and in case the pressure was long continued would produce a smaller effusion in the left sac

Dilatation of the right auricle was especially mentioned in sixteen of the thirty-five cases of right unequal hydrothorax tabulated in my first paper The figures given by the analysis of the Presbyterian Hospital cases strongly support this theory

In sixteen cases of right unequal hydrothorax in the Presbyterian Hospital list the right side of the heart was much dilated in fourteen Both sides were dilated in six cases and the left side alone in two That is the right side of the heart was greatly dilated in nine-tenths of the sixteen cases

The two autopsies which I had the opportunity of making personally on two of the cases in the Presbyterian Hospital list, showed much dilatation of the right auricle and ventricle In both the right auricle pressed on the root of the right lung, and in both the vena azygos major was engorged and dilated There were no adhesions or enlarged bronchial glands or great congestion of the liver which would suggest any theory for the production of the effusion other than that of pressure on the azygos vein

The report of these two cases in detail, together with the notes on the autopsies, are as follows

Case 19—J G, male, white, aged 50 years

Clinical Diagnosis—Myocarditis, mitral stenosis and insufficiency Large right sided pleural effusion which had been tapped once. Specific gravity of fluid 1015, with 4 grams of albumin per liter

Pathologic Diagnosis—Double pleural effusion greater on the right side Mitral stenosis Thickening of the coronary arteries and myocardial degeneration Great dilation of the right auricle The right auricle pressed directly on the root of the right lung The vena azygos major was dilated and engorged

History—The patient had always been a drinking man, but beyond this little concerning his personal or previous history could be obtained About two years previously he began to suffer from morning vomiting and gradually became short of breath on exertion and lost his usual vigor He had been under a physician's care for the two months previous for dyspnea and edema of the feet

Examination—On admission he had much general edema and some ascites There were signs of pleural effusion on the right side below the level of the fourth rib The left side was free The day after admission 2,000 c c of clear fluid was drawn from his right pleura The specific gravity of the fluid was 1015, and it contained 4 grams of albumin per 1,000 parts, and contained a small amount of blood After the fluid was withdrawn the left border of the heart was found to extend to the anterior axillary line, the upper border was at the second rib, and the right border was at the right border of the sternum There was a murmur of mitral insufficiency at the apex preceded by short, rough presystolic murmurs, apparently due to mitral stenosis There was also a rough systolic murmur in the aortic area transmitted to the carotid There were no other murmurs The action of the heart was weak and irregular The pulse was small and weak, and there was moderate thickening of the radial and temporal arteries The liver was slightly enlarged, but did not pulsate There was no pulsation in the veins of the neck.

Course—The patient was slightly delirious for the next few days His pulse grew very rapid and irregular and he died suddenly six days after admission

Autopsy—Both pleuræ were free from adhesions There was 1,500 c c. of clear, slightly blood stained fluid in the right pleural cavity The right lung was slightly compressed and somewhat congested, but otherwise normal. There were 200 c c of fluid in the left pleura The left lung was congested

The left border of the heart extended as far to the left as the anterior axillary line, and the right border, which was formed by the right auricle, extended 4 cm to the right of the sternum from the third rib to the fifth interspace All the chambers of the heart were distended. The left ventricle and left auricle were much dilated, and also much hypertrophied The right ventricle was dilated and hypertrophied The right auricle was tremendously dilated and as large as a boy's fist. The heart muscle was very pliable and yellow, and evidently much degenerated The coronary arteries were hard, stiff and calcareous and their caliber was diminished There was much thickening of the mitral leaflets, and the leaflets themselves were adherent, forming a typical funnel shaped valve, such as is often seen in mitral stenosis The aortic valves were thickened and rough, but were competent. The tricuspid orifice was dilated and admitted four fingers so that there was probably some insufficiency of the tricuspid valves as well The portion of the heart formed of the right auricle pressed directly on

SUMMARY OF CASES OF PLEURAL EFFUSION IN HEART DISEASE

Number	Age in Yrs	Sex	Condition of Pleural Sacs	Pleural Adhesion	Diagnosis	Cardiac Enlargement	External Edema	Liver	Remarks
1	37	M	Effusion commenced on left side Autopsy both pleuræ half full		Autopsy Mitral stenosis and insufficiency, aortic regurgitation, tricuspid insufficiency	Both sides enlarged	Effusion preceded edema		
2	53	M	Autopsy Right pleura 200 c c Left pleura Free		Mit l stenosis and insufficiency	All chambers enlarged, especially left ventricle weight 625 grms	None		
3	56	M	Autopsy Right pleura 270 c c Left pleura Free		Mitral insufficiency	All cavities much distended, especially right auricle, weight 450 grms			
4	42	M	Right sided effusion before fourth rib, which increased rapidly, tapped once, 1200 c c, left side remained free		Mitral insufficiency tricuspid insufficiency	Enlarged to left and right	Present	Enlarged and pulsating	Clear yellow fluid, pulsation in jugular vein and liver
5	36	M	On admission Double effusion, the left effusion disappeared first, confirmed by puncture one week after admission, right-sided effusion to first rib, left side free		Mit l stenosis and insufficiency	Enlarged to left and right	Present on admission	Enlarged and pulsating	Fluid clear yellow
6	52	M	Right-sided effusion to third rib, left side free		Mitral and tricuspid regurgitation	Enlarged to left	Present on admission ascites		
7	33	F	Left sided effusion below fourth rib, right-sided effusion below sixth rib, confirmed by autopsy		Autopsy Mitral and tricuspid, stenosis and insufficiency	All cavities dilated, especially right auricle	Present on admission	Congested	
8	52	F	Clinically and at autopsy, large double effusion		Mit l stenosis and insufficiency tricuspid insufficiency	Bulk of heart made up of greatly dilated auricles, the right auricle was especially dilated	Present on admission	Congested	
9	52	M	Lower half of right pleura contained one quart of fluid at autopsy	Both sides obliterated, except lower half of right pleura	Arteriosclerosis, fatty heart	Both sides enlarged and dilated			Pulsation in jugular vein
10	43	F	Autopsy Lower half of right pleural sac contained 8 ozs of fluid	Both sides obliterated, except lower part of right pleura	*Fatty heart*	*All chambers dilated especially right side*			
11	68	M	Clinically Right-sided effusion, left free Confirmed by autopsy	None	Autopsy Fatty heart atheroma, mitral stenosis, aortic thickening	All chambers enlarged, especially the right and left auricles, weight 650 grms	Present		
12	40	F	On admission Left side, effusion up to third rib, right side, effusion to fifth rib, three weeks later, double effusion, tapped once Soon after patient developed fever with development of pus in left pleura and 1600 c c pus was removed		Mitral insufficiency and stenosis, action weak and irregular	Enlarged to left and upward in left			
13	74	F	Clinically on admission Acute pleurisy on right side with effusion up to the fourth rib no effusion in left side The effusion persisted for some days after subsidence of fever and then disappeared		Mitral insufficiency aortic insufficiency and roughening, fatty heart	Enlarged to left			Fever on admission which lasted for six days, with pain on right and cough, fever gradually disappeared
14	41	F	Clinically on admission Right-sided effusion up to angle of scapula, confirmed by autopsy	Autopsy Left side totally obliterated by adhesion	Autopsy Mitral stenosis and insufficiency, fatty heart, arterial sclerosis	Clinically enlarged, especially toward right	Present on admission		History of acute articular rheumatism, 3 weeks of sharp pain in chest, leucocytes 28,900
15	45	M	Clinically on admission Double effusion slightly greater on right, which gradually disappeared		Mitral stenosis and insufficiency, aortic insufficiency	Enlarged to left and right, left border, anterior axillary line, right border, right parasternal line	Present on admission, ascites which gradually disappeared as improvement occurred		Considerably jaundiced gradually improved until an attack of cerebral apoplexy caused death
16	52	M	On admission Right-sided effusion to third rib, confirmed by puncture, later some left-sided effusion.		Aortic roughening and regurgitation	Clinically, enlarged to right (right parasternal line) and to the left	Slight on admission	Enlarged to within 1 inch of umbilicus	Recovered slowly and effusion disappeared
17	40	F	Clinically Double effusion greater on left, confirmed by puncture Tapped left twice 310c c Tap'd right once 500c c		Clinically and at autopsy Mitral stenosis and insufficiency, tricuspid insufficiency, fatty heart, atheroma of coronary arteries	Autopsy Dilation of all chambers, but especially of the right auricle weight 600 grms	Present on admission ascites		Fluid 1020, albumin, 45 per 1000 Patient had been in hospital several times for same trouble, gradually grew worse and died, autopsy reported in full in paper
18		M	Admitted twice with pleural effusion Always on right, left side remained free right side tapped once 1200 c c and filled again rapidly and then disappeared as patient recovered but persisted longer than external edema		Mitral insufficiency, aortic insufficiency degeneration of myocardium	Enlarged to left and right	Present on each admission as cites, edema disappeared before the effusion		Had been admitted 4 times for cardiac disease, twice with pleural effusion, fluid 1014, albumin 15 per cent by weight, death no autopsy

SUMMARY OF CASES OF PLEURAL EFFUSION IN HEART DISEASE.—CONCLUDED

Number	Age in Yrs	Sex	Condition of Pleural Sacs.	Pleural Adhesion	Diagnosis	Cardiac Enlargement	External Edema	Liver	Remark
19	50	M	Clinically on admission Right-sided effusion up to fourth rib, left side free, right side tapped 2000 c c Autopsy Right side, 1500 c c , left side, 300 c c		Autopsy Fatty heart, atheroma of coronaries mitral insufficiency (relative?)	Clinically Left side enormously dilated, left anterior axillary line right border right edge Autopsy All chambers distended right auricle enormously dilated	Present on admission ascites	Congested and enlarged	Fluid 1015 albumin 4 per 1000, autopsy reported elsewhere
20	53	M	Autopsy Left pleura 1300 c.c. Right plura 730 c c		Autopsy Acute pericarditis chronic interstitial nephritis arteriosclerosis no valve lesions	Autopsy Enormous involvment of left ventricle	Considerable edema some ascites		
21	44	M	Left-sided effusion 750 c c at autopsy	Some on left side	Chronic parenchymatous nephritis, no valvular lesions fatty heart	Much enlargement of left ventricle	Present legs and eyes	Much congested	
22	60	M	Left-sided effusion	Some in right side	Aortic thickening fatty heart	Dilated hypertrophy of left ventricle	Both legs		
23	31	F	Autopsy Left pleura ⅔ full right pleura almost empty	None	Chronic interstitial nephritis no valvular lesions	Hypertrophy of left ventricle heart weighed 535 grms	Legs and eyes preceded pleural effusion ascites	Atrophic wgt 1420 grms	
24	57	F	Double effusion greater upon the left	None	Chronic interstitial nephritis no valvular lesion	Much hypertrophy of left ventricle weight 710 grms	Legs and face preceded pleural effusion some ascites	Congested and enlarged	
25	29	M	Autopsy Right sac contained 1000 c c	Left sac obliterated	Mitral stenosis and insufficiency general atheroma	All cavities enlarged, especially left venticle	Present on admission		
26	38	F	Autopsy Right pleura contained 400 c c left pleura contained 200 c c		Mitral tricuspid and aortic valves all thickened fatty heart	All chambers enlarged			
27	8	F	Autopsy Double effusion, greater on right		Mitral stenosis and insufficiency	Much enlarged especially right auricle and ventricle which were greatly dilated weight 690 grms	Present		
28	39	F	Autopsy Left pleura completely filled right pleura one-half full		Double aortic disease	Right side enormously dilated, left ventricle enlarged and made up bulk of heart	Legs some ascites		
29	33	M	Right effusion to 2nd rib which slowly increased left remained free.		Aortic roughening and insufficiency, mitral insufficiency	All chambers enlarged	Present on admission		
30	8	F	Double effusion decidedly greater on right confirmed by puncture right to 5th dorsal vertebra left to 8th dorsal vertebra		Acute endocarditis of mitral and aortic valves old mitral insufficiency and stenosis presystolic thrill at apex	Enlarged upward to 2nd rib and to right to right parasternal line enlarged slightly to left, probable dilation of left auricle and right side of heart	Slight of legs, disappeared before effusion		History of rheumatism and chorea improved and effusion disappeared, the patient had an irregular fever for the first 2 weeks after admission
31	12	M	Left-sided effusion up to angle of scapula disappearing as heart grew stronger and reappearing with relapse of endocarditis		Acute endocarditis myocarditis and pericarditis mitral insufficiency tricuspid insufficiency friction râles in pericardium on first admission	Enormous dilation of left ventricle and left auricle less degree of dilation in left side	Present on both admissions, disappearing rapidly		Sudden onset of acute endocarditis with fever first week leucocytosis, gradual improvement and discharge returned in 8 days with fever and return of all symptoms, systolic pulsation in veins of neck

the root of the right lung and must have exerted some pressure on it

The course of the vena azygos major could not be traced around the root of the lung since all the tissues were very edematous but the vein was dissected out as it ran up along the spine underneath the costal pleura It was distended by dark blood and was fully one-third of an inch in diameter The lower intercostal veins were correspondingly dilated The left azygos, or azygos minor, was small and collapsed, and could not easily be found The surface of the pleura showed nothing out of the ordinary

There was some ascites The liver was rough and hard, and here was a high grade of the cyanotic induration There was no perihepatitis The kidneys also showed cyanotic induration and were much congested There was no enlargement of the esophageal veins.

CASE 17 —A. B , female, colored, aged 40 years The patient had been admitted twice in six months for the same condition

Clinical Diagnosis —Much pleural effusion greater on the left side Myocardial degeneration and mitral disease Tapped twice Specific gravity of the fluid was 1020, and it contained 4 5 grams of albumin per liter

Pathologic Diagnosis —Double pleural effusion, greater on the left Fatty heart. Great dilatation of all the chambers of the heart, equally as great on the left as on the right side The vena azygos major was dilated and engorged

History —She had had several attacks of acute articular rheumatism In December, 1902, she began to suffer from dyspnea, vertigo, cough and fainting attacks In June, 1903 her feet began to swell for the first time. She was admitted to the hospital July 27

Examination —On admission she had much dyspnea and could not lie flat in bed There was no fever or cough Examination of her lungs showed evidence of effusion in both pleural sacs, but more on the left than on the right side The heart was enlarged to the left and to the right, the apex was in the sixth interspace one inch outside the mid clavicular line There were blowing systolic murmurs at the apex and in the aortic area The urine was of good specific gravity, averaging 1020 At first it contained albumin, but this disappeared as the patient improved

Course —She grew rapidly better under digitalis strychnin, nitroglycerin and rest in bed and was discharged in a few weeks At the time of her first discharge there was no evidence of fluid in her pleural cavity The patient remained fairly well until Nov 12, 1903, when she was again admitted with symptoms of failing compensation

Examination —At that time her condition was as follows

Thorax Evidence of effusion in both pleural sacs, greater on the left side The effusion extended to the level of the fifth rib on the left, and on the right to the level of the seventh rib Exploratory puncture gave clear yellow fluid on both sides This fluid had specific gravity of 1020 and contained 4 5 per 1,000 albumin Respiratory murmur above the effusion was clear with the exception of a few râles

Heart The heart was enlarged to the left, to the right and upward There was a systolic murmur at the apex, which was also heard in the aortic area, but was not transmitted to the vessels of the neck There was a distinct systolic murmur in the tricuspid area of a different character than that heard at the apex This murmur apparently originated at the tricuspid valve There was systolic pulsation in the veins of the neck

Liver The liver was somewhat enlarged but did not pulsate There was some edema of the legs and ascites

November 14 600 c cm of clear yellow fluid was drawn from the left pleura and November 17, 450 c cm were drawn from the left side November 18, the right chest was tapped and 500 c cm of clear yellow fluid was obtained

Blood Red cells 72 per cent, hemoglobin 68 per cent white cells 6,000 There was slight cough and no fever The urine was scanty and albuminous and contained casts The patient died suddenly December 3

Autopsy—The right pleural cavity showed some firm adhesions posteriorly probably diminishing the capacity of the right pleural cavity to a considerable extent The right pleural cavity contained 130 c cm of clear fluid, the left pleural cavity was free and contained 400 c cm of clear fluid The layers of the pleura on both sides were thickened but not congested The vena azygos major could be plainly seen lying against the spinal column on the right side It was considerably dilated and was approximately the size of a large goose quill The vena azygos minor was not dilated and was collapsed so that it could not be satisfactorily studied There was dilatation of the right and left auricle, about equal in degree The right auricle extended two inches to the right of the sternum in the fourth interspace There was dilatation and hypertrophy of the left ventricle and dilatation of the right ventricle The mitral valves were insufficient, due to the thickening of the valve leaflets and chordæ The tricuspid valves were insufficient, due to a dilatation of the valve orifice There was atheroma of the aortic valves and the aorta, and great thickening and calcareous infiltration of the coronary arteries The lumen of these vessels was considerably diminished The wall of the left ventricle near the apex was very thin The section of the heart muscles in these areas showed much degeneration There was hypostatic congestion of both lungs There was moderate fatty degeneration and fibroid changes in both kidneys The kidneys each weighed 160 grams The heart weighed 600 grams

In my first paper I reported the result of the autopsy on a case of double hydrothorax greater on the right side, increasing as the heart lost strength There was little ascites and edema, but the thoracic effusion preceded the appearance of the subcutaneous edema

Autopsy showed chronic fibrous myocarditis and hypertrophy and dilatation of the heart, especially affecting the right auricle The dilated right auricle pressed directly on the root of the right lung

The right pleural sac contained 1,600 c c of clear blood-stained fluid The visceral layer of the pleura was somewhat thickened, but there was no sign of acute inflammation The left pleural sac contained 600 c c of clear blood-stained fluid

The liver was slightly smaller than normal, and there were a few adhesions between it and the diaphragm which were evidently due to an old perihepatitis, but there was no evidence of any recent inflammatory process The bronchial glands were not enlarged nor diseased

Wintrich has reported a case of unilateral right-sided hydrothorax without external edema Wintrich remarked that no cause could be found for the effusion except a dilated right auricle, the result of chronic myocarditis from alcoholism There was no inflammatory change about the liver, nor ascites

Stengel reports two autopsies in his list, in which there was dilatation of the right ventricles, auricles and venæ cavæ, and marked backward pressure on the root of the right lung and azygos vein One of these was a case of unilateral right-sided hydrothorax, and the other was one of double hydrothorax greater on the right side

Dr Stengel states as his opinion that such pressure on the root of the right lung, causing compression of the vena azygos major, is the cause of the right-sided effusions observed in his cases In his article he gives a very convincing anatomic diagram prepared by Dr G G Davis, which shows very plainly how dilatation of the right side of the heart may press on the root of the right lung, and compress the vena azygos major

Dr Stengel and myself can not claim the entire credit of originating this explanation for such right-sided effusions Baccelli advanced this theory in a modified form as early as 1863 He assumed that a dilated right heart produced obstruction of the vena azygos major not by direct pressure on the root of the lung, but by a downward displacement of the right side of the heart due to its increased size and gravity The superior vena cava would then be carried downward and with it the azygos major, consequently this vein from its anatomic position would be drawn tightly around the root of the lung and compressed Baccelli's idea was supported by Lizzato, Cardinelli and Fusa

Rosenbach has advanced the theory that such right-sided effusions are explained by the pressure exerted on the azygos vein by dilatation of the right heart This is aided by congestion of the liver caused by weakness of the heart The enlargement of the liver hinders the action of the diaphragm, and consequently prevents thorough emptying of the veins of the right side of the pleura, thus favoring an effusion

Just as the dilatation of the right heart appears to bear some relation to right-sided pleural effusion, so enlargement of the left heart, with or without involvement of the right side, was observed in nearly all the cases of left-sided effusion In the eleven cases of effusion confined to the left pleura, or greater on that side the left heart, and especially the left ventricle, was especially mentioned as enlarged in nine cases, that is, in four-fifths of the cases of left-sided effusion It seems fairly well established that dilatation of the right heart bears some relation to right-sided effusion The figures just given suggest also that enlargement of the left heart may bear some relation to left-sided effusion I can give no reason why this should be so The pressure of a dilated left auricle on the root of the left lung would not obstruct any large venous trunk analogous to the vena azygos major The venous drainage of the upper part of the left pleura is afforded by two small veins, the upper left azygos vein and the left superior intercostal vein These are so placed that they are not liable to compression by an enlarged left heart

Rosenbach explains these left-sided effusions by assuming that the enlarged left ventricle presses on the lower lobe of the left lung and produces atelectasis Long-continued congestion produced by the collapse of the lung brings about a low-grade inflammation of the pleura and finally an effusion forms in the pleural sac which is partly transudate and partly inflammatory

My list of cases gives nothing to confirm or to deny this theory of Rosenbach I can only call attention to the fact that left-sided cardiac dilatation seems to bear some relation to left-sided pleural effusion

Signs of acute inflammation of the pleura were not found at autopsy in any of the Presbyterian Hospital cases, or in any of those analyzed in my former paper Dr Stengel did not find any such condition in the three autopsies held on the cases he reports However, the fluid removed in Cases 1, 2 and 3 had too high a specific gravity and too large an amount of albumin for a pure transudate The fluid did not contain fibrin and was certainly not the result of an acute inflammatory process, but the physical characteristics of this fluid are such that it might have been the result of transudation combined with an exudate of a low-grade inflammation of the pleura, as has been suggested by Rosenbach

The pleura in Case 17 and in Case 4 of my previous paper were reported as thickened and whitened, although there were no signs of acute inflammation It may well be that long-continued congestion had set up some subacute inflammation here which was not active enough to cause fever, cough or pain but may have aided materially in the production of the effusion

Stengel suggests that a long-continued congestion produces some trophic change in the vessels of the pleura favoring the passage of the fluid and also calls attention to the fact that inflammation of the pleura may be latent and without symptoms He suggests that in some cases an inflammatory element may be present in the production of these cardiac pleural effusions

Gerhardt mentions a class of cases in which the effusion is very obstinate and recurs with great rapidity and persistence Some of these cases have been tapped a great number of times and the clinical picture they present is that of a chronic pleuritis of a low grade, combined with a process of transudation due to the congestion of the vessels of the pleura

Certain features of two of my cases suggest that some trophic change takes place in the pleura in cardiac disease that may render the pleura membrane a point of lessened resistance to infection

Case 13 was an instance of acute pleurisy which occurred on the right side in a case of well-marked heart disease, with cardiac dilatation and symptoms of failing compensation The pleurisy was accompanied by pain and fever

In Case 12 the empyema developed in a case of double cardiac hydrothorax, greater on the left side, after both pleural sacs had been emptied by aspiration The heart was much enlarged toward the left

These two cases suggest that long-continued congestion may have altered the tissues of the pleura and that the pleural sac had become a locus minoris resistentiæ Two isolated cases of this sort are not very convincing, but they are mentioned because they seemed to have some bearing on the question as to whether the effusion in cardiac disease is purely a transudate, or whether it is partly passive and partly inflammatory

It seems probable, then, that the mechanism of the formation of fluid in these cases of pleural effusion in heart disease is not that of a simple transudate, but that congestion of the pleura produces a chronic inflammation of low grade, and that the effusion is both a transudate and an exudate This is supported by the following facts First, the specific gravity of the fluid and the amount of albumin contained in it is often too high to be consistent with the pure transudate second the effusion may precede, by a considerable length of time, external edema or other serous effusions, third, the two cases reported suggest that the pleural sac particularly affected may undergo some trophic change, making it a point of lesser resistance to infection, fourth, the effusion in certain cases is very obstinate lasts a long time and returns quickly after aspiration

Gerhardt mentions the obstinacy and persistence of this effusion as a characteristic of this class of cases Rosenbach, Brouardel and Liebermeister have called attention to this peculiarity of such pleural effusions

Rosenbach mentions two cases in which the effusion lasted six and fourteen months respectively

None of my cases showed this obstinacy of the effusion in any marked degree Several of the patients were admitted to the hospital more than once for symptoms of failing compensation and pleural effusion, but usually one or two tappings were sufficient to relieve the dyspnea, and the fluid returned slowly, even when the case was near to a fatal termination

There was no case in the Presbyterian Hospital list in which the fluid persisted for any great length of time, and which was not relieved by one or, at most, two tappings The effusion usually disappeared spontaneously as the patient grew stronger, or else increased slowly until death Consequently, I can not say that the Presbyterian Hospital list supports the statement of Gerhardt and Rosenbach that great obstinacy is a characteristic of these pleural effusions in heart disease

PROLONGED DELIRIUM IN PERICARDITIS AND ENDOCARDITIS

WITH REPORT OF A CASE *

EDGAR MOORE GREEN, A M, M D
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I have taken the liberty of bringing to your notice the subject of delirium in certain diseases of the heart, not because it was possible for me to demonstrate any new scientific theory, but rather because from my reading and my own limited personal experience it seemed to me that prolonged delirium in such cases was quite unusual It is, of course, well known that heart disease is a frequent complication of rheumatism, and endocarditis is much more common in such cases than is pericarditis According to Whittaker,[1] Bouillaud believed that in every case of acute articular rheumatism the heart was more or less affected Williams states that 75 are affected in every 100 cases Leudet fixes the ratio at 22 in 100, Sibson 20 in 100 Wunderlich 19 in 100, Duchek 16 in 100 Bamberger has claimed that 30 per cent of cases of cardiac trouble arise from rheumatism, and Thompson has placed the figures at 16 and 20 per cent. On the other hand, Latham states that pericarditis only occurs seven times in 136 cases of rheumatism The latter disease is certainly more apt to occur in severe cases, and is said to be more frequent when the inflammation has a tendency to wander from one joint to another in rapid succession It is said to occur very infrequently in cases of subacute or chronic rheumatism, in fact, some authorities deny that it ever occurs as a complication of the latter

Ordinary cases of the disease run a comparatively

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs J M Anders Frank Jones and W S Thayer

[1] Twentieth Century Practice

short course, frequently not more than eight or ten days, except where the amount of effusion is great, and these terminate in from three to six weeks It will not be necessary for me to enumerate the ordinary symptoms and complications of this disease I may say, however, that the rarer symptoms mentioned by most authorities are aphonia and hoarseness, from pressure on the left recurrent or laryngeal nerve, syncope from anemia of the brain resulting from pressure on the large vessels of the heart or myocarditis, vomiting from pressure on the phrenic nerve Stupor, delirium and coma are mentioned as occurring from hyperemia due to pressure on the vena cava or to the accumulation of toxins in the blood All authorities whom I have consulted, however, have stated that the latter signs usually show themselves in the last stages of the disease Austin Flint has reported cases marked by delirium, but in all the cases of which I have read the delirium has been of comparatively short duration

It will not be necessary for me to give a detailed report of the symptoms of this case, but a résumé may be given as follows

History—Dec 15, 1902, I was called to visit a man, age 46, whom I found to be suffering from acute rheumatism His previous health had been good Early in life he was said to have had an attack of brain fever, but of this I could obtain no detailed history He had had two attacks of acute rheumatism, each lasting several weeks In one of these attacks he had been under my care, and, although the case was somewhat tedious, there were no complications and he made an uninterrupted recovery There was no specific history During the first week of his illness the inflammation was rather migratory in character, at one time an arm would be affected, on another day one knee would be inflamed, or one ankle or possibly both ankles, at another time an elbow or wrist During this time the temperature ran as high as 103 to 104 degrees At the end of about one week he was suddenly taken with pain in the left side about the level of the fifth and sixth ribs This pain was acute in character and accompanied each inspiration the respiration became more rapid, running up to 37 or 38 per minute, pulse 100 to 108, temperature 100 to 101 degrees

Examination—Auscultation at this time revealed symptoms of acute pleurisy, and also a systolic murmur over the precordium, but more intense at the apex There was also found a to and fro friction sound at the fourth and fifth interspaces directly over the heart The sounds of the heart rapidly diminished in force and loudness Visible impulse of the heart was practically obliterated Percussion of the chest revealed great increase in the lateral diameter of the cardiac dullness The urine was about normal in quantity but was quite high colored and of high specific gravity There was no albumin nor sugar, but urates were present in considerable excess

Symptoms—In addition to great pain in the region of the heart there was difficulty in swallowing The latter symptom was so marked that even the swallowing of liquids caused great discomfort and frequently he was unable to take more than one or two swallows in succession At the same time he became extremely restless, talkative and frequently saw imaginary objects It was exceedingly difficult to induce sleep Morphin, 1/4 gr, with atropin would partially relieve pain but seldom caused more than one hour's continuous sleep He was exceedingly restless, frequently trying to get out of bed and almost constantly trying to pick up imaginary objects His most frequent delusion was that he was traveling in some distant city or foreign country, although he usually recognized those about him After a number of days he believed he was on a sort of houseboat on a trip which his wife was conducting His usual question when I visited him in the morning would be, "Well, how did you get here today?" It is difficult to understand how this delusion could have originated His occupation for several years had been that of superintendent at large iron works and during certain seasons of the year he was in the habit of traveling for the making of purchases in various parts of the West At no time did his delirium become violent, though, as stated before, he frequently attempted to get out of bed This mental condition continued without interruption until January 26, or about five weeks, when, after a fair night's sleep, the nurse stated that his mind wandered but little After this time the mind was more or less confused for a few moments at a time each day for two weeks, but it may be said that the mental condition steadily improved From the time of the onset of pericarditis his temperature did not run above 100.4 degrees As a rule, it would fall to 99 or even 98.6 degrees in the morning and would rise to 100.2 degrees in the evening

Dyspnea was always present, though it did not develop to the extent of orthopnea Cyanosis was also present and its presence, of course, indicated the extent to which the brain must have been disturbed by this venous congestion Osler states in his practice that delirium and marked cerebral symptoms are associated with the hyperpyrexia of rheumatic cases I think, however, that you will agree with me that the degree of fever was not sufficient in this case to account for the continuance of delirium through so long a period of time

Treatment—December 31, Dr William L Estes of South Bethlehem was called to see the case in consultation The treatment adopted at this time was large doses of citrate of lithium and potassium with iodid of potassium three times a day Tincture of strophanthus was also given three times a day in doses of ten drops Fortunately for the patient the bowels were rather active, frequently four to five stools per day, and these were often more or less watery in character Under the action of the alkaline salts given with copious draughts of water, the kidneys became more active, the quantity of urine running some days as high as 102 ounces and not on any day being allowed to fall below normal The skin was kept active and perspiration continued profuse As soon as the patient's condition permitted general massage was given in order to tone up the general system

Result—Recovery, of course, was very slow, and he was not allowed to take up any work until March 31, even then the amount of physical exercise was much restricted In October, however, he started West on a business trip and much of his time was spent at great elevations above the sea level and yet with no untoward result On November 8 he left Durango, Colorado (elevation 6,520 feet), at 8 a m and went to Silverton (elevation 9,224 feet), where he walked two miles to a stamping mill and there climbed up to a height of 150 or 200 feet, afterward returning by train to Eureka The following day he drove twenty six miles alone, starting from Silverton (elevation 9,224 feet), and going to Ouray (7,700 feet), passing meanwhile over a height of 11,002 feet, then on nine miles further to Mount Sneffles (elevation between 11,000 and 12,000 feet), and back to Ouray at 6 p m

The ability to take such an amount of exercise at such an elevation would seem to me to show how thorough his recovery had been, moreover careful physical examination of the chest made within the last few days revealed no markedly unnatural sounds The cardiac impulse is normal in location and force and the sounds almost natural in character, except for a slight blowing murmur heard at the apex

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How They Do It in Iowa—A Red Oak paper of August 20 has the following "Dr A A Potter, who advertised that he would be in Red Oak last Saturday and meet all who wished to have their ills taken away and their youth renewed, was on time all right But he met with grief a plenty He had no more than unpacked his pill box when a local officer arrested him and took him before Mayor Reiley to answer to the charge of practicing medicine in Red Oak without having procured a license The doctor plead guilty and was fined $20.10 He left town"—*Iowa Health Bulletin*

THE LIMITATION OF DIGITALIS IN MITRAL AND AORTIC REGURGITATION *

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While this subject has been thrashed over and ground up before various medical societies and by numerous eminent authorities, there yet remains much to be done in the crystallizing and refining process What I have to say may seem erratic and dogmatic to some, but I shall try to show by reason of the anatomic location and the physiologic action of the mitral and aortic valves that in mitral insufficiency when compensation has failed or is failing digitalis is the sheet anchor, the general in command while in aortic insufficiency with the same condition, it too often plays the rôle like the soldier, Jack Falstaff of old

In treating any heart lesion the careful clinician must study closely the cardiac state and the condition of the blood vessels, and he must take into consideration the various organs that are complicated

The mitral valve, located as it is, at the gateway between the great arterial reservoir the left auricle and the great arterial pumping station the left ventricle can, when it fails to close with systole throw its burdens on various organs, particularly the right heart the lungs, liver and kidneys When compensation has failed or is failing the pathologic picture is that of venous stasis

The column of blood is forced back on the left auricle This chamber of the heart can not perform its functions as a reservoir, receiving the blood from the pulmonary veins and sustain this backward flow at the same time As a result the pulmonary veins are obstructed in their efforts in carrying the systemic blood to the auricle The right ventricle has to contract against resistance It has to pump the venous blood of the right side through the lung already engorged from the backward pressure through the pulmonary veins, hence the marked hypertrophy of the right ventricle which ensues The lungs are overwhelmed, this condition giving rise to dyspnea as an evidence of edema, and to cough denoting bronchitis from irritation to the terminal branches of the bronchial tree This edema and bronchitis will be in proportion to the degree of obstruction and stasis, and the condition of the cardiac muscle

This backward pressure exerts its force further on the liver, giving rise to marked engorgement of this organ through the inferior vena cava, on the stomach, spleen and intestinal tract through the portal vein, on the kidneys through the renal veins Thus it can be seen that we have hyperemia of the lungs, liver, stomach, bowels and kidneys We have stasis everywhere, beginning at the incompetent valve and ending in a great many cases in the rectum, in the form of hemorrhoids It is seldom that one sees a classical mitral regurgitation with failing compensation but what hemorrhoids are also found All these organs enumerated have important functions to perform Nutrition is profoundly disturbed as a result of this stasis and engorgement The governing band of metabolism has run off The constructive and the destructive forces are in a state of unstable equilibrium We have perverted secretions, faulty excretions, bad nutrition, low blood pressure, vitiated blood and leaking blood vessels Dropsy, in mitral insufficiency, if properly treated, very often yields readily

With this clinical picture before you, with all the organs stagnated and overflowed, is there any necessity for dwelling on the marked effects of digitalis in mitral insufficiency with failing compensation? The very location of the mitral valve when the muscle becomes incompetent is conducive to marked hyperemia and venous stasis The right heart, in other words, must suffer the brunt of nearly all the evils as a consequence of failing compensation Now let us consider the other great valvular lesion, aortic insufficiency The aortic valve stands as a sentinel at the very gateway of life, the aorta This great blood vessel arises from the great pumping station, the left ventricle When this valve becomes incompetent from disease, and when the left ventricle fails to compensate and cries for help, it has not the neighbors to call on as the mitral valve has When it does sound the alarm and cries for help it is, alas, too often too late When the aortic valve becomes incompetent and can not close with diastole, we have a backward column of blood from the aorta thrown on an organ highly endowed with muscular structure, the left ventricle For a long period of time the left ventricle is the only portion of the heart that comes to the rescue of the incompetent valve when it cries for help The ventricle responds with vim and vigor It puts forth all of its energies Its fight and struggle is something to be applauded In its efforts to relieve the leaking valve it becomes enormously hypertrophied The beef heart attains to its most classic and highest degree in aortic regurgitation In nearly all cases of aortic incompetency there is naturally a high blood tension

There frequently exists a well-defined arteriosclerosis There is not the hyperemia of all the organs which we find in mitral insufficiency, except in the terminal stage when death is close at hand With this evidence before you let me ask, Has digitalis any place in aortic insufficiency? Nearly all of the eminent authorities teach us that when the left ventricle fails in its efforts to come to the rescue of the incompetent aortic valve, and becomes dilated and relaxed to such a degree as to produce leakage at the mitral valve, then digitalis is indicated

The argument is that this secondary or relative, or more properly speaking, muscular insufficiency on the part of the mitral valve gives the mitral symptoms of engorgement and stasis added to the aortic symptoms Therefore digitalis must be given, just as we would in a frank case of mitral insufficiency with failing compensation In other words they teach that failing compensation it matters not from what source, means digitalis as a remedial agent I wish to oppose these views most emphatically Digitalis in my hands has no place at all in aortic insufficiency, it matters not what may be the condition of the muscular structure of the heart The conclusions reached have not been on theoretical grounds as some of our authorities are so accustomed to charge but from a careful clinical bedside study in the hospital wards and in the outdoor clinic

As we said in the outset in mitral insufficiency with failing compensation it is the general in command It tones up the walls of the blood vessels by its vaso constrictor action It comes to the aid of the left ventricle which does not primarily undergo that marked hypertrophy which we have in aortic insufficiency By its actions on the ventricles particularly the right and the walls of the blood vessels engorgement is relieved blood tension is raised stasis is overcome absorption of serum through the blood vessels and lymphatics takes place

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs. J M. Anders Frank Jones and W S Thayer very often symptoms disappear and the patient is made fairly comfortable

As Broadbent well says in his book on diseases of the heart "Mitral insufficiency with dropsy is the disease that brings patients to the outdoor clinic Dropsy can be relieved, then symptoms can be materially alleviated so that they can resume for a time their occupation"

My experience at the outdoor clinic voices the sentiment so well expressed by Broadbent Dropsy, however, in aortic insufficiency means preparation for a funeral in a short while

It can readily be seen why this is so The ventricles, particularly the left, become hypertrophied and dilated, relaxed, worn out and degenerated *to such a degree* that the administration of digitalis is of no use

To give digitalis in aortic insufficiency, where we have secondary mitral leakage from ventricular dilatation, calls to mind the fable of the crawfish and the worm They became engaged in a heated argument Harsh words followed They challenged each other to a duel When they met on the field of battle the worm entered a protest that the crawfish had all advantage of him because he (the worm) *could not tell which end of the* crawfish to attack, because, as you know, the crawfish can move as freely backward as forward

So it is in giving digitalis *in aortic insufficiency with* failing compensation You do not know which end of the circulation the digitalis is going to attack In aortic insufficiency with failing compensation, where the mitral valve is relatively incompetent, we have leakage both at the mitral and aortic openings The leakage at the *mitral valve spins its force* backward with systole on the pulmonary veins, lungs and the right heart The backward current from the aorta through the incompetent aortic valve spends its force on the left ventricle

Let me ask the authorities who contend that digitalis is as much indicated in aortic insufficiency with failing compensation as in mitral insufficiency Does not the digitalis by its action drive as much blood back through the incompetent mitral valve as it does forward through the incompetent aortic valve? Does it not in this way increase the already existing stasis in the left auricle, pulmonary veins, lungs, right heart and liver? The authorities will answer by saying that digitalis will contract the ventricle, and by so doing will close the mitral valve, thus checking this backward flow, thereby relieving stasis

Let me ask When you close the mitral valve do you not put too much work on the left ventricle already overburdened from its continued efforts to come to the rescue of the incompetent aortic valve? Is there not danger by increasing this pressure within the *ventricle of* paralyzing the left ventricle already dilated to its utmost degree? Do you not put too much work on it while the coronary arteries are crying out for blood to maintain nutrition in the muscle? You are giving the heart more work to do and a stone for food while it is crying out for rest and bread

Dropsical symptoms in aortic insufficiency are very late manifestations They are the expressions of a heart tired *and fagged in its efforts to relieve* the incompetent valve and in the majority of cases the dropsical manifestations have their origin in the mitral and not in the aortic valve To give digitalis in these cases is like trying to make a wick burn when there is no oil in the lamp, or like trying to make an engine pull a heavy train up grade with the brakes on, with the flues burnt out and no steam in the boiler When compensation fails in aortic insufficiency *the left ventricle goes to pieces very much* after the fashion of Dr Holmes' masterpiece, "The Deacon's One Horse Shay"

Let me quote from our own Dr Babcock, in his most excellent book on diseases of the heart You may read between the lines just which way the pendulum is swinging in his analytical mind He says "In cases, therefore, of aortic defects manifesting dropsy, the indication is for the administration of cathartics and digitalis the same as in mitral disorders I believe, however, that the latter should be administered with judgment There are some physicians who advocate the employment of large doses of digitalis in all cases of aortic regurgitation with broken compensation My experience leads me to agree with Broadbent when he says that a distinction should be made between cases of aortic insufficiency with edema and those without When loss of compensation is shown *by* symptoms pointing to the left ventricle's feebleness, rather than by edema and back pressure consequent on relative mitral regurgitation, then I am emphatically of the opinion that digitalis must be given with caution" He cites the following case The *man had aortic* insufficiency with failing compensation He says "Edema was not present, yet the state of the heart seemed to call for heroic doses of digitalis in the forlorn hope of lessening the dilatation of the left ventricle Instead of doing *this, however,* the digitalis appeared to aggravate the back pressure, and at last death came suddenly and unexpectedly"

There is no more eminent authority on heart disease than Dr Babcock If you will follow him closely you will note that he qualifies to a great extent, the reference to digitalis in the treatment of aortic insufficiency with failing compensation He wants a string tied to the digitalis so that he can guide it

In my own experience, as I said at the outset, I can see no rational reason why digitalis should be given in this great valvular lesion Broadbent says in his book on diseases of the heart "In the absence of mitral symptoms it is rarely that digitalis is indicated in aortic incompetence or is of service, and it may undoubtedly do harm It may set up sickness, which is an ominous symptom in this form of disease and induces a condition of asthenia difficult to remedy"

In my opinion, this argument as set forth above can best be applied in aortic incompetence where mitral symptoms are present There is *more reason for* discrimination as to the indications for digitalis in these two valvular lesions than there is for the administration of quinin in the various malarial disorders The subject has always been of particular interest to me and I have reached the conclusion, after a careful study from *bountiful clinical material* that there is but one valvular lesion where digitalis is indicated, and that is mitral insufficiency, and not until compensation has failed

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Tuberculin in Diagnosis.—The *Beiträge zur Klinik der Tuberkulose* is a new periodical just *entering its second* volume It is issued by Professor L Brauer of Heidelberg No 4 contains an article by Bandelier, of the sanatorium at Kottbus, who states that out of 500 persons to whom the tuberculin test was applied, 92 6 per cent responded positively All those who failed to exhibit the specific reaction have remained apparently healthy to date Out of 114 patients tested as they left the sanatorium, *38 per cent gave no reaction* and 22 of these patients tested again twelve to twenty months later, were found permanently cured with but 2 exceptions He urges the application of the tuberculin test as a current measure not only by specialists, but in hospitals and *in general* practice *In order to have a uniform* standard for comparison he pleads that Koch's technic should be followed

SOME POINTS IN THE ACOUSTICS OF RESPIRATION *

CHARLES E QUIMBY, M D

NEW YORK CITY

The first attempt to define, even relatively, the pitch of respiratory sounds was made by the late Austin Flint in a prize essay published in 1852 The opening sentences of that essay are as follows

> Very little attention has hitherto been paid to variations in pitch of sounds heard in the practice of percussion and pulmonary auscultation By most writers on physical exploration pitch modifications, except in râles, are not recognized, no allusion whatever being made to them

Flint makes essentially no attempt to explain the production of respiratory sounds, or to offer physical evidence in support of his purely dogmatic affirmations His statements as to the pitch of normal and pathic respiratory sounds, quoting verbatim, are these

> On placing the stethoscope over the trachea the respiratory sound is found to be notably high in pitch The relative altitude of pitch is immediately perceived on comparing the tracheal sounds with the vesicular respiration, heard on listening over the chest Two sounds are heard uniformly in this situation, viz, inspiration and expiration. The sound of expiration is higher in pitch than that of inspiration In vesicular respiration the pitch is uniformly and notably lower than that of tracheal and bronchial respiration The pitch of the bronchial sound is high, probably not much below that of the tracheal sound. In the more important elements the tracheal and bronchial sounds are similar, they are both high in pitch, and the expiration in each is higher than inspiration

The foregoing statements, made over fifty years ago are identical with those found in the standard works on physical diagnosis to-day, and have evidently been accepted through the intervening years by one author after another without question or investigation

In a former article[1] I presented a comprehensive discussion of the laws governing the formation of respiratory sounds and their pitch relations, and, as I believe, not only demonstrated the fallacy of accepted beliefs, but established, on a strictly physical basis, the truth of the exactly opposite propositions regarding the pitch and pitch relations of such sounds

It is the purpose of this present paper, reserving the right of reversion to the former article for exactness of statement under criticism, to present anew, in brief outline, a demonstration of the following propositions

1 The tracheal note represents the inferior pitch limit of respiratory sounds, and that limit may be defined by a letter of the musical scale, as may every other respiratory pitch

2 In vesicular respiration the inspiratory sound represents the superior pitch limit of respiratory sounds

3 The passage from vesicular respiration to bronchial breathing is attended, at first, by a lowering in pitch of the inspiratory note, and later by lowering of both inspiration and expiration

4 In vesicular breathing the inspiration is of a higher pitch than expiration, in rude, bronchial and tracheal breathing the inspiration is of a higher pitch than or the same pitch as expiration There is no respiration resulting from consolidation in which expiration is of higher pitch than inspiration

In the proposed demonstration it is necessary to consider first the formation of respiratory sounds Whatever modifications they may undergo later, there can be no question but what they depend primarily on vibrations excited in the respiratory air column by its motion through the tubes Any such confined column of air will be thrown into sonorous vibration when it meets or passes an obstruction whereby it is suddenly compressed Such points are found in the respiratory track only at the larynx and bronchial bifurcations At the larynx sonorous waves are produced by the primary compression of the air in passing the vocal chords, and the subsequent expansion as it enters the laryngotracheal tube, at the bronchial bifurcations similar waves are developed, on inspiration, by the deflection and compression of the air column, and on expiration by the impact of the two columns of air as they meet in a common tube Now, it is an established law of acoustics that the pitch note of any vibrating column of air is determined essentially by its length, and that the greater this length the lower the resulting pitch note In stating this law I am not unmindful of the measures employed by musicians in tuning such instruments as the clarinet and flute, they are but seeming contradictions of this law Hence, since pitch depends on length, the only supposition under which normal or vesicular respiration could be of low pitch, and bronchial breathing of higher pitch would be that the respiratory air column vibrates as a whole from the larynx to the ultimate tubes, which column would be at its longest, i e, lowest pitch in health and shortest, i e, highest pitch when its terminal was cut off by consolidation of the lung

If this were the case, however, there could not be two notes in the same tube, and vesicular and tracheal respiration must be of the same pitch, which we know is not true It is also made an impossibility by the physical conditions, since there is no constant tube length from the larynx to the terminal tubes, and the main air column could not vibrate in harmony with the various terminals Moreover, we know that a sonorous air column vibrates as a unite only within the limits of uniform compression These limits within the lung are the points of bronchial bifurcation It is thus evident that the normal respiratory sound, as heard at any given point, is a composite sound made up of the tracheal sound and an added term from each and every tube in the line of passage to and within that part of the lung under examination, and that each and every one of these component sounds has its own fixed pitch, determined by the length of the tube in which it is developed By reason of the manner of bronchial bifurcation the notes of the several components of this sound may fairly be represented by lines, of which one represents the trachea, progressively shorter ones the single branches, and multiple short lines the terminal tubes Now of these component notes, which combine in normal respiration and which represent all the possible respiratory notes, the trachea is the longest, and hence gives the lowest possible pitch note to be heard in respiratory sounds Whereby is established the first of our propositions For proof that the pitch note of this sound is, in the majority of persons, not far from G of the musical scale, I could quote high musical authority, but prefer to leave it to the decision of your own musical friends

In considering the question of pitch in the composite sound of vesicular respiration it is evident that there are three possibilities

1 These several components may be heard separately or in groups thus making vesicular respiration not one but two or more sounds each of distinct pitch As it

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*Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Practice of Medicine and approved for publication by the Executive Committee Drs. J M. Anders Frank Jones and W S Thayer

[1] Medical Record March 25 1893

most certainly is not thus heard by the majority of diagnosticians we leave this contingency as not pertinent to the present discussion, merely stating that it is the case with those whose ears are acutely trained in the differentiation of pitch

Assuming, then, that but a single sound is heard in respiration, its pitch must be determined by some one or by a combination of similar-pitched components about which all the others are gathered as quality This dominant tone or tones will be that which reaches the listening ear with the greatest intensity

Therefore, we have for our other possibilities 2 One of the single notes, either that of the trachea or a primary bifurcation, may dominate the multiple short tube notes, in which case vesicular respiration will be of relatively low pitch 3 The multiple short tube notes may by reason of their combination, be the louder, in which case vesicular respiration will be not only relatively high, but the highest pitch respiration to be heard Which of these possibilities is the truth can be determined only clinically by the ear But leaving that point for the moment, some conclusions can be deduced from what has already been shown

It is obvious that, if the second assumption be true and vesicular respiration of low pitch, whether from the trachea or an early bifurcation, the short tube high pitch sounds are heard only as quality of the respiratory sound and their elimination under the processes of consolidation can only affect quality, and can not by any possibility make the resultant bronchial breathing of higher pitch than was the vesicular On the other hand, if the third assumption is the correct one, and vesicular respiration is of high pitch, by reason of the dominance of the multiple combined short tube sounds, then their elimination by consolidation can only leave the longer tube low pitch notes to supply pitch for bronchial breathing

Hence, under either contingency, vesicular inspiration represents the highest pitch of any form of breathing, it being under the second assumption, that of one of the single branches, and under the third relatively high from the terminal tubes, but in neither case admitting the possibility of a rise of inspiratory pitch during the consolidation of the lung

A justification for the decision of the ear in favor of the third possibility is found in a consideration of the factors determining intensity of the inspiratory notes As the air current is more rapid in the trachea and primary bronchi, their notes are primarily the more intense Each of these notes, however, is single and suffers a loss of both intensity and clearness by interference as its waves pass into succeeding tubes, while the terminal tube notes not only suffer no such disturbance, but gain relative intensity by their number and production close under the listening ear It is thus that ular

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tion of such vibrations, on expiration it is by the colli sion of the two columns of air from the distal tubes, con ditions most unfavorable to the production of such vi brations Hence the note produced at any given point must be more intense on inspiration than expiration, and for this cause alone, other things being equal, it is evi dent that the distal point of sound production must be deeper in the lung, i e, in shorter tubes, on inspiration than on expiration

Second, the intensity of sonorous vibrations depend, other things being equal, on the pressure or rate of flow of the air column This is greater on inspiration than expiration, so that both factors of intensity thus combine to make the point of ultimate sonorous vibrations in respiration such as will give an expiration of lower pitch than that of inspiration What acoustics thus demon strates to be a necessity the ear confirms clinically, and establishes the fourth and last of our propositions in so far as it relates to vesicular breathing

It can hardly be necessary to repeat the demonstration for rude or bronchial breathing, since the same condi tions governing intensity are in force after the elimina tion of the short tube notes, until the sound heard i purely a transmitted note from some tube without the affected lung In such a case the inspiratory pitch may fall until it is the same as that of expiration, but it is impossible that it should fall below the expiratory pitch Thus we have established our final proposition for al forms of respiration

A brief word as to the manner in which inspirator pitch falls under varying grades of consolidation If th bronchial bifurcations and the consequent notes whic they contribute to the respiratory sound, were in geom rical ratio, i e, two at the first, four at the second, an thus on through, say, eight, sixteen, thirty-two and sixt four, and it was found that sixteen tubes, of any c note, were sufficient to dominate the lower notes, it wou then be easy to see that normal inspiration must h the pitch of the 128 notes, and that, as consolidation vanced from the surface, the inspiratory pitch wo drop successively and gradually through the pitch of 64 and 32 to that of the 16 But our assumption a bifurcation is not true, for, in fact, the bronchi, hence the respiratory notes, going to any given pa the lung, show two, or at the most three, large si branches and then a multitude of very small ones difference between these last and the single branche ing extreme from the acoustic standpoint As a r the dominance of these high pitch tubes in the res tory sound is not destroyed by the occlusion of a po of the number, but when such pitch control is fi lost by more extensive occlusion the change in in tory pitch is not gradual, but by a sudden drop to of one of the large single tubes, while such small as may still give sonorous elements now appear in t spiratory total as quality This explains how grades of rude respiration, which means rete higher pitch notes without pitch dominance, may pitch nearly if not quite so low as that of pure bro

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mal respiration In each case it was evident that the expiratory pitch was due to a peculiarity in the second branch on the right side, whereby the inspiratory high pitch notes were weakened and the expiratory current from the lower lobes impinged on the angle of bifurcation, as is the rule in inspiration

CONCLUSIONS

In conclusion, I beg to answer the question so commonly asked "Admitting all this to be true, of what good can it be to revise all our ideas, since men are making diagnoses by present methods?"

To this I reply 1 If it is the truth, it should be known accepted and taught 2 It makes available for purposes of diagnosis the full value of the element pitch in respiratory sounds, which, if the position taken is correct, has never been so employed heretofore 3 An experience of fifteen years in the teaching of physical diagnosis, making practical use of these principles with students, has shown that it enables students to acquire a far greater skill and confidence in diagnosis, within a much shorter time, than under the present methods of teaching"

DISCUSSION

ON THE PAPERS OF DRS STEELE, GREEN, JONES AND QUIMBY

Dr. James Tyson, Philadelphia—We should bear in mind that "the proof of the pudding is the eating," and I will simply state what I am doing in cases of aortic regurgitation with loss of compensation, which means that there is also regurgitation at the mitral orifice My first step is to place the patient in bed, I believe one half the battle is won by securing a complete relaxation and reduced demand on the heart—taking off the breaks as has been suggested—and this can often be accomplished only by rest in bed In bad cases I fortify this treatment with small hypodermic injections of morphin, scarcely ever exceeding one eighth of a grain, with probably some atropin added which softens the effect of the morphin These two measures will sometimes produce the most satisfactory and even unexpected results Having done this we are prepared to take more active measures toward the relief of the dropsy, and this can be done by active purgation, I go even further than this sometimes and puncture the dropsical tissues to allow the fluid to drain off and relieve the tension After this is done, and compensation remains unrelieved, I add digitalis, not in large but in small doses, say five minims every four hours, slowly increasing the dose, after waiting a reasonable time to get the primary effect I think very often physicians want to see the effects of digitalis before they should expect it I prefer to give moderate sized doses and then wait two, three or even four days sometimes, after which, if there is no contraindication, I may increase the dose In this way I think digitalis is helpful Dr Jones' illustration of the forward and backward movement of the crab is applicable, but I do not think the parallel is exact Of course, if there was an equal balance between the regurgitation at the mitral orifice and that of the aortic orifice, i e, if the blood came back as fast as it went forward, his position would be strikingly sustained, but so long as there is a chance of getting the blood to go forward more strongly than backward, I think we are justified in using digitalis I believe the general principles announced by Dr Jones are correct, and I agree with him, but I think we meet many cases which are successfully treated with digitalis, when there is mitral regurgitation with loss of compensation associated with aortic disease

Dr. Richard Cabot, Boston—Experience seems to show that digitalis may do good in uncompensated mitral disease, stenosis or regurgitation, in the vast majority of cases, and that it does not do good in aortic regurgitation I think a distinction should be made within the group of cases, known as aortic regurgitation, in elderly persons, with degeneration of the arteries and with high peripheral tension digitalis will do harm, but there is another and much smaller group of cases, occurring usually after rheumatism and in young persons In this group the disease attacks primarily both valves, mitral and aortic, the change being not merely a muscular one, but affecting chiefly the valves Here digitalis will do good, though not so much good as in cases of primary mitral disease I was struck with one of Dr Jones' figures about trying to haul a train up hill with the brakes on and with very little steam in the boiler Better let off the brakes than to try to make the engine do more work Better lower the peripheral resistance, if it is high, than try to stimulate the heart I have seen many cases where compensation had failed, and yet the heart seemed to be pumping strongly In these cases good results may be obtained by using purgatives and diuretics, and, when the dropsy is reduced, digitalis We should first deplete, reducing the load, and letting off the brakes, after that stimulation may be followed by improvement I take issue with Dr Quimby in all the points he has raised Music has interested me for many years, and particularly matters of pitch, and I wish to state that before writing my book on "Diseases of the Chest," I went through Flint and verified point by point everything that he stated regarding the pitch or respiratory sounds Dr Quimby is of the opinion that the pitch of bronchial breathing ought not to be higher than that of vesicular breathing, but he does not prove that to be the case My ear tells me that bronchial breathing is higher than vesicular breathing Also, it is my experience and that of my friends with musical ears that in bronchial breathing the expiratory sound is usually higher in pitch than the inspiratory one Therefore, I believe that what Flint has stated in his book is correct Anyone who is to consider this subject should have a musical ear, and should not base his remarks on the theory of the production of sound

Dr. DeLancey Rochester, Buffalo—I am in accord with what Dr Jones has stated regarding the use of digitalis in mitral and aortic insufficiency I think Dr Tyson will get better results with rest in bed than by placing his patients on digitalis in cases of aortic insufficiency There is one thing I wish to disagree with Dr Jones stated that the only place for digitalis was in failing compensation in mitral insufficiency, if he had stated "mitral disease" I would have agreed with him I think it has a great use in mitral obstruction In mitral obstruction the heart has great difficulty in forcing the blood from the left auricle to the left ventricle, digitalis will lengthen the time of diastole and will energize systole. Therefore the auricle is given more time in which to empty itself I think that there is a clear indication for digitalis in mitral obstruction We do not give drugs in cardiac diseases simply because we find a murmur, the use of drugs should be controlled by the condition of the circulation and evidences whether or not it is failing I am glad that Dr Cabot took issue with Dr Quimby, I also take issue with him, and I agree entirely with Dr Cabot Change of pitch is more easily recognized in the violin than in any other instrument known, and I must say that, clinically, Dr Quimby is wrong in the position he takes in this matter

Dr. S C James, Kansas City, Mo —A very unfortunate element in the make up of the heart is the fact that the valves are too close together, if I had the making of a heart I would like to separate the valves, five or six inches, then we western doctors would know when to use the whip, digitalis, and when not to use it The average physician, when he comes in contact with a case of heart disease, immediately thinks of digitalis I think that digitalis has done more harm in the world than it has done good On the other hand, I think that digitalis is one of the grandest remedies in the hands of medical men to day The lack of the intelligent use of this drug has placed many an unfortunate, though trusting patient, in his coffin If the cardiac condition were more carefully studied by the physician he would know better how and when to use digitalis I think if I was to lay the whip on a horse I would not do it at the foot of the hill I believe in the use of blarney, by its use a horse may be much encouraged and helped in pulling his load. Digitalis should be used, but with intelligence I believe, too, in taking off the brake, and, as Dr Tyson says, use digitalis moderately and with a great deal of caution

Dr Edward F Wells, Chicago—In the discussion and reading of Dr Jones' paper it must have been clear to everyone that the keynote to the situation in failing compensation in cardiac disease, so far as the management of the condition is concerned, is that of opportunity In the severer cases of lost compensation our opportunity for doing good is sometimes remarkable Take, for example, a man who has been sitting in his chair for days, with no sleep, with advancing swelling of the limbs, labored breathing, etc, and the management of such a case should be something like this Minute doses of morphin, 1/16 of a grain, administered hypodermically, will allow the patient to sleep for hours Cathartics should be given, and watery bowel movements should be obtained by giving elaterium, 1/8 or 1/10 grain doses every three hours, until eight or ten watery movements have been produced Then, if necessary, several punctures may be made in the feet or legs and you may allow quarts, or even gallons, of water to pass off within twenty-four, forty eight or seventy two hours Now comes the opportunity for the use of digitalis, and with the greatest benefit I am sure that if the members of the section will review their experience they will corroborate all that I have said

Dr Joseph Sailer, Philadelphia—Dr Steele's theory of the causation of hydrothorax is not capable of direct proof, and, therefore, depends on the accumulation of presumptive evidence There are certain facts which appear to be against it I believe that in the majority of cases of cardiac disease, hydrothorax is present when the left auricle is distended more than the right This opinion is based on careful percussion and examination of the heart Moreover, it is difficult to understand how sufficient pressure can be made on the vena azygos major to obstruct it without producing symptoms of pressure on some of the other important viscera of the thorax The dilatation of the cutaneous veins on the right side, which we should expect to occur on account of their anastomosis with the branches of the azygos vein, is not present, and, as Dr Steele has said, the theory is hardly applicable to the left sided cardiac hydrothorax, although there is little reason to believe that the etiology in the two conditions is different In regard to Dr Jones' paper, it has been my experience that aortic disease is more common than mitral disease, the proportion being about three to two When severe edema occurs in the course of aortic regurgitation and fails to clear up in three or four days after the patient has been put to bed, the prognosis is extremely grave Dr Cabot spoke of taking off the brakes The older writers, commencing with Laennec, used venesection freely and apparently with great benefit In those cases in which I have used it I have never known bad results

Dr Alfred T Livingston, Jamestown, N Y—The heart, as a pump, is a peculiar pump, being practically two double pumps combined and connected with each other One of the peculiar conditions which makes it differ from an ordinary pump is that it does not pump from a reservoir to a given point, but from the termination of one circuit into the beginning of the other Now, it is generally conceded that disorders of the heart have their primary cause in disturbances of the circulation If the two circuits are in perfect condition the pump will have easy work to perform and will not get out of order If it does get out of order, it is because something has gone wrong in one or both the circuits Therefore, it seems to me that the primary indication is to correct the abnormal conditions in the circuits Digitalis has been spoken of by Dr Jones as acting on the general circulation, but he regards it as a difficult creature to control and, therefore, to be used only with great skill My general experience with ergot leads me to say that I find it to be the best drug for correcting the fundamental conditions on which these cardiac difficulties arise Its action is certain, and is chiefly on the disordered tissues, unstriped muscular fiber, in using it you need not stop to consider where the circulation is disturbed If an overdose be given it will not do harm Its effect is to tone and contract the relaxed unstriated muscular fibers in the walls of the blood vessels from the crown to the toe, in so doing it helps the circulation I am quite sure that you will agree with me, when I say that if the general circulation is helped the heart will have a better chance to recover itself

Dr George W Webster, Chicago—Dr Jones has stated that digitalis should not be used in any case of aortic regurgitation, here I think we should discriminate and think of the condition which causes it In aortic regurgitation, when this is the only valvular lesion present, it is, as a rule, due to syphilis and therefore, is often accompanied by a general arteriosclerosis, here there might have been a widespread disease that started in the blood vessels and ended in the aortic valve On the other hand, aortic regurgitation is frequently found as a complication of, or exists with, other valvular disease, an obstruction at the aortic valve, as well as a regurgitation We should differentiate carefully between these cases of aortic regurgitation due to infection and aortic regurgitation secondary to syphilitic infection In the latter, Dr Jones will find that where there is a general arteriosclerosis of specific origin, there is no drug in the materia medica capable of doing more harm than digitalis On the other hand, where there is a simple infection and involvement of the aortic valve, or an involvement of the mitral valve as well, without involvement of the heart muscle, blood vessels, or kidneys, then it is possible to show that digitalis not only may but occasionally does good I think we should discriminate more than we do

Dr J M Anders, Philadelphia—Hydrothorax is a form of dropsy, or venous stasis, dependent on a passive hyperemia For its production there must be some obstruction to the venous circulation, and on the distal side of the obstruction fluid exudes from the lumen of the small veins The reason dropsy begins in the feet is because the venous obstruction is here reinforced by another causative factor, i e, the effects of gravitation In hydrothorax the influence of gravitation is not manifested, and yet we have all met with cases of pleural dropsy in which general dropsy was slight, or even entirely absent For an explanation of some of these cases, at least, it seems to me that the theory advanced by Dr Steele is tenable, namely, that within the thorax there is an obstruction to the venous circulation produced by abnormal pressure by the enlarged heart on the azygos veins Popoff and other clinical observers, and I myself, have observed inequalities of the radials in valvular disease of the heart, and I think this is explained by assuming that the right auricle exerts pressure on the large vessels within the thorax It is reasonable to suppose that the azygos veins might be pressed on and produce hydrothorax, although absolute proof is still wanting Cardiac dropsy is more common on the right than on the left side of the thorax, although it may be more marked on the left than on the right side Recently I saw a case in which it was confined entirely to the left pleural cavity There is a principle in the treatment of hydrothorax that should not be lost sight of When a cure results some of the fluid is obviously absorbed through the lymphatics, but it should be borne in mind that the fluid in hydrothorax is very poor in proteids, and may, therefore, be absorbed also through small veins As a matter of fact, there is no better way of getting rid of the dropsical fluid in hydrothorax than by systematic daily purgation by means of saline laxatives Venesection has a similar influence and exerts its good effects in the same way These measures rid the blood vessels of some of their serum and thus stimulate absorption from the pleural sac through veins and lymphatics to replace that which has been lost This should be done before the administration of digitalis The delirium which occurs in chronic heart disease is difficult to explain I have seen a number of cases which occurred after failure of compensation and where there was a general venous stasis I had occasion not long since to state that venous stasis should be looked on as a pathologic condition, it means, as Lazarus Barlow has pointed out, starvation of the tissues, the retention of waste products, and finally an anatomic alteration in the various viscera in the body, in just the same way as we have disturbances of the liver, gastrointestinal tract and the kidneys, so we may have disturbance of the function of the brain, or delirium There is another class of cases in which a different causative factor is at work, I refer to the blood changes—the toxic materials in the circulating blood These may produce heart lesions and general arteriosclerosis, and this sclerotic process may affect the cerebral vessels Here, coexistent cardiac disease and delirium may be met with before rupture of compensation has occurred In these cases I think the delirium is rather due to arterial changes within the brain than to any cardiac lesion per se, and that both of these organs suffer in consequence of the action of a common cause, namely, the altered blood state I believe with Dr Webster that we should classify our cases of aortic regurgitation into those due to endocarditis and those due to general degenerative changes before we begin to use any special method of treatment. I agree with Dr Jones that in aortic regurgitation, with marked arteriosclerosis, it is bad practice to give digitalis, and especially unguarded, in these cases it should be used cautiously only when indicated, and be guarded by the use of the nitrites or nitroglycerin, so as to diminish the arterial resistance

Dr N R Coleman, Columbus, Ohio—There are conditions in which digitalis does good, this has been my experience When we have a condition approaching a normal cardiovascular system, then we may secure good results from the cautious use of digitalis, but if there is a degenerative change in the blood vessels, such as an arteriosclerosis or some marked change in the heart, such as a granular degeneration then digitalis will not only do no good, but in the majority of cases it will be found to be a dangerous agent I take issue with Dr Quimby's theory While I am not a musician I believe my ear will detect matters of pitch pretty correctly I have studied physics, and especially acoustics, with care, and I do not believe the normal vesicular murmur is higher in pitch than the bronchial or tracheal respiration I will even go farther and say that the tracheal and bronchial expiration is higher than the tracheal and bronchial inspiration sound

Dr. J Dutton Steele—I agree with both Dr Sailer and Dr Anders in thinking that there has been no theory thus far advanced that can be called entirely satisfactory to account for pleural effusions in heart disease The theory that there may be some pressure on the various venous trunks within the thorax causing congestion and consequent effusion of fluid has a wide acceptance The vena azygos major curves around the root of the right lung and is, therefore, specially liable to be compressed The only point of practical value that can be drawn from our present knowledge of the subject appears to me to be that long continued congestion may cause effusion not as a mere obstruction to venous circulation but by reason of the long continued congestion causing some atrophic change, therefore, the effusion may not be entirely a transudation, but an exudation and therefore in these cases of hydrothorax I think we had better not wait and give purges digitalis, etc to relieve the dropsy but do early and frequent tapping

Dr E M Green—As has been stated in the discussion the cause of the delirium in pericarditis may be, 1, from hyperpyrexia which generally exists in these cases 2, from venous congestion 3 from the existence of some toxemia in the blood The fever however was not exceedingly high in the case reported and the delirium seems to have been caused by venous congestion

Dr. Frank Jones—I was glad to hear what Dr Sailer said regarding the frequency of mitral and aortic lesions It has happened to me to encounter more aortic lesions than mitral My experience has not been in keeping with the text books in this respect In regard to Dr Wells' statement regarding the general types of aortic insufficiency and the conditions which bring them about, I wish to say that, according to my own observation, when it occurs in early life the prognosis is invariably good In the endocardial form, the integrity of the heart muscle is not necessarily lessened, the coronary vessels are intact and the circulation is clear With regard to the remarks of Dr Tyson, I understand the position he takes in reference to the injudicious use of digitalis Particular stress should be laid on its use in approaching dissolution, when there is sleeplessness dyspnea much anxiety, etc

Dr C E Quimby—I am neither surprised nor disturbed that the gentlemen take issue with my statements I only regret that they have been unable to meet a logical demonstration of specific propositions with anything more interesting or pertinent than dogmatic personal opinions, as it affords me no opportunity for a reply

INTRACRANIAL NEURECTOMY FOR TRIGEMINAL NEURALGIA

CASES AND COMMENTS *

HARRY M SHERMAN, M D

SAN FRANCISCO

At this time and place one may not report opinions or cases which are merely conventional, and the report of the following five cases in four patients is permissible only because of the exceptions to the rules in two of them All were cases of trigeminal neuralgia, in all the pain had been of considerable duration, and had gradually become so severe as to be unbearable In all four patients the third branch was involved, in two the second branch as well, and in one all three branches In two patients the results were conventional Complete and lasting relief followed the operation In two patients, one of whom had two operations there were exceptional, unconventional accompaniments

In the first case the exceptional element was a complete and permanent paralysis of the facial nerve, noticed first the morning after the operation In this patient the pain had been limited to the third branch, but the intention at the time of the operation had been to remove the entire ganglion However, all that I did remove was the outer half of the ganglion with the second and third branches to their foramina of exit The wound healed aseptically, the pain was gone, but the seventh nerve was paralyzed Studying the possible traumatisms to the nerve during this operation, it is easy to exclude pressure on the pes anserinus, as the operation was done six or seven years ago, and on the lines of the original Hartley-Krause technic, so the zygoma was not cut and it stood between the nerve and any instrumental pressure by retractors, indeed, the osteoplastic flap of skin, muscle and bone was folded down over the zygoma and protected this very area On the other hand, while it is possible to reach back, inside the skull, into the posterior fossa, it is not conceivable that I let my finger wander so far as to pick up and tear the seventh nerve before it entered the petrous bone, and I am, moreover certain that I did not do this Finally, the man has had no trouble with his ear, nor anything to indicate disease of nor injury to the nerve during its passage through the bone

Excluding trauma to the nerve in its superficial location, put the case outside that class of which Pershing wrote and to which Wyeth the other day referred, and in which pressure or pull on a superficial nerve during the period of anesthesia resulted in temporary or permanent paralysis It is a satisfaction to do this, for the advent of the paralysis suggested this as the first and most obvious explanation and had it proved to be the true one, it would have had to be accepted as a fault in technic The integrity of the nerve before the operation and the lack of any pathologic ear or temporal bone process make it most probable that some injury inside the skull caused

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs. DeForest Willard Charles A. Powers and J F Moore

the condition. I am aware that a man working by touch in the dark may easily reach farther than he intends, especially if he does not keep his eye on the external wound, but in this case the work was done by sight and not by touch, so that I can be sure an errant finger did not do the damage. The case was reported in The Journal some months ago, but no explanation has been offered and for this reason I include it with the other operations and submit it for discussion.

In the other patient the pain began in the supraorbital branch and was associated with an attack of herpes facialis. Primarily it acted as a definite neuralgia and the nerve was cut finally just above the orbit, but without giving relief. Then, because of a history of plumbism some years before, which had yielded to potassium iodid, because of miscarriages by the patient's wife, and because of non-response of the pupils to light, the potassium iodid was again given in doses of 5 grm. daily, with no local relief and with a distinct loss in general health. Thus the consideration of the case took cognizance of syphilis, but as treatment for syphilis proved of no avail and as the pain had extended to include all three branches, an exposure of the ganglion was decided on. It was also decided to cut the root of the nerve behind the ganglion and to go no further, unless some distinct pathologic process like a gumma should disclose itself. That this might be the outcome was the hope of Dr. Clark J. Burnham and Dr. L. Newmark, when they turned the patient over to me.

As I intended merely to cut the root, as has been practiced by Frazier, I prepared for the possible cutting of the sensory root only, so made my incision to circumscribe the temporal muscle. The muscle was then separated as a whole from the pericranium down to the point where the bone was to be cut. This also avoided unnecessary stripping of the pericranium from the skull in a putative syphilitic. At the proper level, about 1.5 cm. above the zygoma, the pericranium was cut and the skull bared. The zygoma was left untouched. A small trephine opening enlarged by rongeurs gave ample room. the exposure of the ganglion was uneventful and the fasciculi of the root were hooked up and cut, the cutting causing a reflex movement by the patient. It was not possible to discriminate between sensory and motor filaments, but the fact of the section of the entire root was satisfactory and the ganglion was tipped forward out of its bed to make this proof clear.

On coming to close the wound it was seen that the brain did not expand immediately to occupy its original space, and so, to avoid leaving an air space in the skull, normal salt solution was poured in and the head rolled over so as to keep it there while the suturing was done. For two days the man was free from pain and there was paralysis of the temporal and pterygoids. On the third day, however, he began to have pain, and this pain gradually increased in its old area and intensity. For two months the anesthesia, to light touches and to pin-pricks over practically the whole of the area of the fifth nerve, persisted and was verified by several examinations, while the temporal and pterygoid paralysis also persisted. In the third month sensation returned, to my surprise, and light touches and pin-pricks could be felt everywhere over the whole area excepting the supraorbital branch area which had been anesthetic from the time of the superficial section of that nerve. The sensation as it returned was not of normal intensity. It was described as being dull, but it was demonstrably present and evidenced a union of the cut nerve root beyond any doubt. The paralysis of the pterygoids, however persisted.

This is the supposedly exceptional point in this case. I do not know the number of cases operated on by Frazier and others in which the nerve root alone has been cut and nothing interposed between the ends, as was suggested by Abbe, but I was impressed with the simplicity of the plan when Frazier, on Spiller's suggestion, tried it and with apparent success. I report this case to call attention to the fact, which I am obliged to accept as proven, that the nerve root may unite and resume its function, and that this most simple operation is not, in itself, to be wholly trusted for the production of an anesthesia and an analgesia which will be permanent.

Because of the persistence of the pain, and also and chiefly, because of the return of sensation, I again exposed this man's gasserian ganglion, three months after the first operation. The point of interest here for me was the possibility of encountering such firm adhesions of the dura mater to the bone as to interfere with the operation. I followed, from the skin to the ganglion, the old line of operation. The incision was, therefore wholly in scar tissue, which nowhere was it impossible to discern. The dura mater was but normally adherent to the bone and consequently separated easily, and I attributed this to the salt solution, which presumably did not absorb quickly, which diluted any escaped blood, and so resulted in a light areolar tissue bond between dura and bone. A little hook, passed under the root of the fifth nerve, behind the ganglion, demonstrated that the ends had, by some kind of a bond, anatomic or cicatricial united. The union was broken, the ganglion tipped forward and wholly removed. Salt solution was again poured into the skull and the wound again closed and healed aseptically.

There is now a permanent anesthesia to tactile, heat cold and pain sensations except along the borderline between the fifth nerve distribution and areas of contiguous nerves, a line that is never a typical one and which permits because of its anatomic irregularity, of easy explanation of physiologic anomalies. It may be added that in this last operation the zygoma was cut and pushed down but that the addition to the field of view did not seem to me to be great.

Since this second operation the patient's subjective pain has continued unabated.

REMARKS

The points of the case are the variations of the incision so as not to injure the fibers of the temporal muscle nor strip more than the necessary amount of pericranium from the skull. The use of physiologic salt solution to fill the space to be occupied by a slowly expanding brain and exclude air. The fact that a ganglion can be exposed a second time, three months after the first time, with no difficulty and no hemorrhage, by following the lines and planes of the first incision. Finally the fact, on the evidence of this case, that the cut root of the fifth nerve may unite and resume its physiologic function. Other cases may be added to confirm this statement, but even if they are not forthcoming the fact of union in this one case can not, to my mind, be gainsaid.

Dr. Hoffa's Tribute to American Surgery.—In Dr. Hoffa's recent visit to this country he found much to commend in American surgery. He was greatly impressed with the completeness of American hospital appointments, especially the corps of nurses found in every large hospital. He praises the nurses for their intelligence and efficiency.

PHYSIOLOGIC EXTIRPATION OF THE GANGLION OF GASSER

FURTHER REPORT ON DIVISION OF THE SENSORY ROOT FOR TIC DOULOUREUX, BASED ON THE OBSERVATIONS OF FOUR CASES *

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AND

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From the William Pepper Laboratory of Clinical Medicine (Phœbe A Hearst Foundation)

REMARKS BY DR FRAZIER

In June, 1901, three years ago, I reported to the Section on Surgery of the American Medical Association then in session at St Paul, the results of a series of experiments on dogs conducted by Dr Spiller and myself, with a view toward determining the feasib of dividing the sensory root of the gasserian ganglion for the relief of tic douloureux

RESUME OF EXPERIMENTAL WORK

These experiments consisted in carrying out this operation on a number of dogs and subjecting the structures removed several months later to a rigid histologic examination to determine whether regeneration of the sensory root after simple division could occur The results of these investigations admitted of but one interpretation, namely, that there was not the slightest evidence of regeneration within the central nervous system. More recently,[1] Dr Spiller and myself pursued this line of investigation in a series of experiments on the sensory roots of the spinal ganglia with equally positive results

Having established by experimentation in lower animals beyond a peradventure of doubt the inability of the sensory root to regenerate at least within the central nervous system, it only remained to obtain equally positive results in the human subject before any substantial claims for the operation as a rational, practical and "tried-out" procedure could be made These we present to-day as a result of our experiments with four cases, all have remained free from recurrence

ADVANTAGES OF THIS OVER OTHER PROCEDURES

Extraction of the ganglion Certain theoretical claims were advanced in favor of the operation, and these have been substantiated by our clinical experience

1 *Control of Hemorrhage* —It minimizes the amount of hemorrhage No one can speak the truth and say that hemorrhage is not a troublesome feature Hemorrhage from the middle meningeal artery is of little or no moment, and it can be controlled easily whether the vessel be injured as it courses along the temporal bone or at the foramen spinosum On the contrary, hemorrhage from emissary veins is distinctly troublesome The greater the number and firmness of dural attachments, the greater will be the hemorrhage from this source, and the nearer we approach the ganglion the firmer the adherence and the freer the bleedin Inasmuch as the ganglion receives its greatest blood supply from below, surgeons are advised to put off elevation of the ganglion to the last To divide the sensory root the base of the ganglion is left undisturbed and this cause of free and persistent bleeding avoided

The only other source of hemorrhage worthy of consideration is the cavernous sinus Injury to this sinus has caused hemorrhage, if not serious and alarming, at least necessitating suspension of the operation for a day or more This vascular channel being in intimate relation with the internal aspect of the ganglion, is exposed to danger once the operator begins to free it from the ganglion Confining, as we do in practicing division of the sensory root, our manipulations to the root itself and to the posterior aspect of the ganglion work at the point of greatest safety, insofar as the sinus is concerned, and need never give it a thought

2 *Simple Technic* —Its execution is comparatively simple It goes without saying that the exposure of the ganglion is by far less difficult than its extraction. Once the ganglion is exposed, we have made all the preparations necessary for the division of the sensory root, thus this operation is complete before the difficulties common to the extraction of the ganglion have been approached

3 *Avoidance of Injury to Adjacent Structures* —The cavernous sinus is not exposed to injury The abducens is in such intimate relation with the ophthalmic branch that division of one is almost impossible without division of the other In the extirpation of the ganglion it is a matter of great difficulty to preserve this cranial nerve intact The motor root is always destroyed in extraction of the ganglion, whereas, in division of the sensory root, the motor root may be preserved intact

4 *Reduction in the Rate of Mortality* —If the troublesome difficult features attending operation for the extraction of the ganglion are, to a great extent, eliminated, there should be an appreciable reduction in the time required to complete the operation, and it is only reasonable to predict that the operation, which is more economical as to time and attended with considerably less hemorrhage, will be attended with a lower mortality

TECHNIC

This phase of the subject has been treated fully in previous papers[2] The approach to the ganglion by the usual Hartley-Krause method, the temporary or permanent resection of the zygomatic process, the exposure of the foramina ovale and rotundum as guides to the ganglion, an incision in the dura propria from one foramen to the other, the reflection of dura propria from the superior and posterior aspect of the ganglion revealing the sensory root, picking up of the root on blunt tenaculum and division of same completes the operation[3]

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[*] Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy and approved for publication by the Executive Committee Drs DeForest Willard, Charles A. Powers and J E Moore

[1] University of Pennsylvania Med Bul June 1903 p 126

[2] University of Pennsylvania Med Bul December 1901 Philadelphia Med Jour Oct. 25 1902

[3] Considerable importance has been attached to what has been called the intra arterial route and the difficulties attached to injury to the middle meningeal artery grossly exaggerated One familiar with the great variation in the course of the middle meningeal artery and its relation to the temporal and frontal bone realizes at once the futility of attempting to establish a point below which one can operate always with the assurance that the vessel will not be injured. The danger of injuring the middle meningeal vessel in opening the skull is due to the fact that the vessel sometimes runs in a bony canal, sometimes in a deep channel When the fragment of bone is removed the vessel is lacerated. Sometimes there is no canal at all usually the canal begins sufficiently high to escape injury exceptionally however the canal begins so far down that it would be impossible to make an opening large enough to enable one to carry out the necessary manipulations on the ganglion by the so-called infra arterial route Common sense prompts one to make the opening as near the base of the skull as possible not especially to avoid the artery but in order to reduce to a minimum the distance from the margin of the skull to the ganglion and to make the opening only as large as the manipulation may require No other directions to the operator are necessary he avoids injuring the artery if he can and if he can not it is a matter of no difficulty to control the hemorrhage

DIFFICULTIES ATTENDING THE OPERATION

An objection has been made to the operation we advise for the relief of tic douloureux, viz, that the sensory root can not always be exposed, and that in such a case resection of this root would be impossible Dr Spiller thinks it is extremely probable that resection of the posterior part of the gasserian ganglion would have the same effect as resection of the sensory root The object we strive for is the division of the central nerve processes which arise in the cells of the gasserian ganglion Many of the cells that send processes into the sensory root are cut off from this root by a resection of the posterior part of the ganglion, and the effect in the permanent relief from pain would probably be the same as though the sensory root were divided If, therefore, there is any difficulty in exposing or recognizing the sensory root Spiller recommends a resection of the posterior part of the ganglion, believing that it would be as effective as a resection of the sensory root

PHYSIOLOGIC EXTIRPATION OF THE GASSERIAN GANGLION

Up to this time the claims which have been made for division of the sensory root have been based altogether on the results of our own experimental and clinical evidence It might be well at this juncture to introduce the evidence of an impartial critic whose judgment and opinions in matters pertaining to the physiology, pathology and anatomy of the nervous system are held in great respect Van Gehuchten has published recently a most instructive and interesting paper on the surgical treatment of trifacial neuralgia,[4] and in this article he discusses somewhat at length the effects of division of the sensory root Owing to the fact that he believes this operation to be as radical in effect as extirpation of the ganglion, he has styled the former not inappropriately the "physiologic extirpation of the ganglion," and regards it as both less dangerous and more complete than the operation of Krause

His observations and conclusions on the question of regeneration or degeneration of the sensory root confirm absolutely our own Every fiber of the central nervous system, he says, attacked by secondary degeneration is a fiber inevitably lost "The nerve fibers of the central nervous system interrupted at any part never regenerate The section of the large root of the trigeminal nerve is equivalent, then, at least as regards its effects on the bulbo-spinal root, to the destruction or extirpation of the gasserian ganglion itself Whether the cause of the trifacial neuralgia resides in the semilunar ganglion, or in one or the other of the three peripheral nerves, at the moment we interrupt completely all communication between the ganglion and cerebrospinal axis, we destroy inevitably the route by which painful impressions are conveyed to consciousness

"The section of the large root of the trigeminal nerve, even though it does not constitute an anatomic extirpation of the semilunar ganglion, is equivalent, then, to a true physiologic extirpation, and is the only one which is of importance in point of view of treatment of trifacial neuralgia

"This physiologic extirpation is not only more complete and easier to accomplish than the tearing out of the ganglion recommended by surgeons, but it has an advantage over this mode of operation which is not to be despised It leaves intact the connections of the ganglion with the peripheral organs"

That the operation on the root is much more simple than the extirpation of the ganglion might be inferred from the fact that many surgeons, among them Poirier, Horsley and Lauwers, recommend tearing out the root as a preliminary measure to extirpating the ganglion If the exposure of the root were a matter of any great difficulty, this step of the operation naturally would have been postponed until the last when the ganglion was entirely freed from its attachments

It has been said that the suggestion made by Dr Spiller, in 1898, of treating tic douloureux by division of the sensory root was not original, that there was on record one instance in which, prior to 1898, the operator had deliberately torn out the root This is quite true, but it should be borne in mind that the surgeon did not perform this as an operation of choice, but did it because he was unable to remove the ganglion His patient died within a few hours, and he never repeated the operation nor recommended it to others For the conception of the idea that division of the root was equivalent to physiologic extirpation of the ganglion credit is due to Spiller alone Furthermore, those who have taken exception to the claim of originality ought to have known that there is a very distinct difference between avulsion of and division or resection of the root Avulsion of the root is not only unnecessary, but what is still more important, may be distinctly harmful Simple division of the root suffices to cause complete and persistent degeneration of the bulbospinal root of the trigeminal nerve, and the possibility of recurrence of the symptoms is therefore *nil* Avulsion may expose even the pons to concomitant lesions (Van Gehuchten), and for this reason alone the procedure should be rejected

AVOIDANCE OF OCULAR DISTURBANCES

Noteworthy in our experience is the absence of any ocular disturbances Attention has already been called to the frequency with which the structures on its inner aspect, including the third, fourth and sixth nerves, have been injured in extirpation of the ganglion, and to their escape from injury in division of the sensory root The most serious ocular disturbances of extirpation of the ganglion is corneal ulceration Although no especial pains have been taken to guard against it, our cases have been entirely free from this complication Spiller says it is probable that sympathetic fibers pass to the eye after entering the trigeminal nerve through the gasserian ganglion, and as in division of the sensory root these fibers are not injured, the danger of ocular disturbance by this operation is lessened The trophic influence of the gasserian ganglion on the eye may possibly depend on the integrity of these sympathetic fibers, but it is probable that these fibers are not so numerous in man as in the lower animals (The literature bearing on this subject has been carefully studied by Kreuzfuchs) Of this phase of the subject, Van Gehuchten writes "The persistence of the anatomic connections between the peripheral organs and the gasserian ganglion, separated from the nervous axis, without doubt, prevents the grave ocular complications mentioned by Kraus and Lauwers" The experimental investigations of Van Gehuchten himself and of Lugars and Bonne have shown that while degeneration of the fibers of the central stump follows division of the sensory root the ganglion itself does not undergo any marked modification This is equally true of the posterior roots of the spinal cord and their ganglia as of the cranial nerves and their ganglia

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[4] Le Nevraxe vol v and University of Pennsylvania Med Bul April 1904

METHODS OF ABBE AND VAN GEHUCHTEN

Recognizing from his wide experience the difficulties and dangers that attend extirpation of the ganglion, Abbe recommended another operative procedure, because it was very much safer and, in his opinion, equally efficacious This consists in division of the second and third divisions at their exits to their respective foramina and the subdural interposition of tissue Two objections to this method of treatment at once suggest themselves The first that the operation is applicable only to those cases in which the pain is distributed only to the second and third divisions, the second that there is a possibility of the rubber tissue acting in the rôle of a foreign body setting up a reaction in the tissues, which would terminate in abscess formation and necessitate the removal of the foreign material

Abbe says "It is certainly past dispute that there is no need for the removal of the first branch of the fifth pair in any case of grave tic douloureux unless the origin is to be found in a tumor of the gasserian ganglion or behind it" This may apply to the majority of cases, but it certainly is not a rule without exception In fact, in two of the four cases which constitute this series, the pain was most intense in the distribution of the first division

It might also be said of Abbe's operation that it offers no assurance against subsequent involvement of the first division, and so far as the mortality is concerned, it should be no less than that following division of the sensory root, since both are intracranial operations, the only difference being that in one two peripheral branches are divided, while in the other the central root of the ganglion

Van Gehuchten, in his recent contribution to the treatment of trifacial neuralgia, recommends the tearing out of the peripheral branches, a procedure which, he says, is simpler and much more easily executed than intracranial resection This recommendation is based on the following phenomena Simple division of a cranial nerve nearer to or further from the base of the cranium is followed by degeneration of all the cells of origin, but with complete integrity of all or almost all of the fibers of the central end This degeneration is only temporary, however and is soon followed by reparation of the nerve and restoration of the function Tearing out of the nerve, on the other hand, produces reactional phenomena much more intense, the degeneration that follows soon becomes an achromatosis, and this, in turn is followed by atrophy and disappearance of all the injured cells These phenomena have been observed only in motor nerves, and to prove whether sensory nerves would be affected in a similar manner, experiments were conducted on rabbits, the three peripheral branches were seized with a hemostatic forceps at their exits from the supraorbital, infraorbital and mental foramina and torn away The results were positive, not only was there atrophy of the cells of the ganglion, but Wallerian degeneration of its bulbospinal root

As regards the technic of the operation, the nerve should be freed as far as possible from all its connections and seized as near as possible to the base of the cranium, in order to make the resulting traumatism more intense In reviewing the literature of the subject, Van Gehuchten found that this operation had been recommended and practiced by Blum in 1881, and later by Doyen There seems to have been some apprehension on the part of surgeons that there was danger in employing the force necessary to tear the nerve, of inflicting some serious injury to the brain centers In any other cranial nerve this complication might occur, but the gasserian ganglion is so firmly attached to the base of the skull that this accident could not be considered possible

These observations of Van Gehuchten are certainly worthy of the surgeon's consideration If avulsion of the nerve will result in such degenerative changes of the ganglionic cells and the bulbospinal root that restoration of function is impossible, this operation should be practiced as a substitute for the intracranial operations Whether or no surgeons at large would be willing to practice in those cases in which a so-called central operation is indicated, it should at least be given a trial, when circumstances call for a peripheral operation, that is to say, instead of resecting a portion of the inferior dental or infraorbital nerve, the nerve should be forcibly torn away If Van Gehuchten's observations are correct, it is reasonable to assume that there would be less chance of recurrence in the case of the latter than of the former operation Not, of course, until this operative procedure has been proven successful in its application on the human subject can it claim the support of the surgical profession Therefore, with the exception of a few isolated cases, it is supported only by the results of experimentation on rabbits[5] Davis, in 1898, operated on a case in which this idea of Van Gehuchten's was put into practice, but with unfavorable results The superior maxillary nerve was exposed as it ran from the gasserian ganglion The nerve, as it entered the bone, was grasped with a hemostatic forceps and pulled upward, with another forceps the nerve was grasped closer to the ganglion and twisted loose from it The relief which followed the operation was only temporary, the pain gradually returned and became so severe as to require a more radical operation In commenting on the case, Davis says the explanation of the return of pain is left to the experts The operation was practiced in the manner prescribed by Van Gehuchten, it might be claimed that the twisting out of the nerve was not sufficiently violent or brusque, but this view is hardly acceptable

REMARKS BY DR. SPILLER[6]

In studies of the nervous system of dogs,[7] in which the sensory root had been cut, I found that when only the external part of this root was divided the degeneration in the spinal root of the trigeminal nerve of the pons and medulla oblongata by the Marchi method was only in the dorsal part of the root This is well shown by photographs in the article referred to I believed from these investigations, published in December, 1901, that I was justified in concluding that the fibers of the lateral portion of the sensory root at its entrance into the pons, in their further course, occupy the dorsal part of the descending spinal root From this it follows that the fibers of the inner portion of the sensory root occupy the ventral portion of the descending spinal root

The investigations of Van Gehuchten on the changes occurring in the sensory root of the trigeminal nerve, after tearing out peripheral branches of this nerve are important He says, in relation to this subject "This

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[5] University of Pennsylvania Med Bull., April 1904

[6] The following observations on the relative position of the fibers belonging to the three peripheral branches of the trigeminal nerve in the gasserian ganglion and the sensory root and their continuation in the spinal root are by Dr Spiller including an explanation for the limited area of anesthesia of the face occurring after partial division of the sensory root.

[7] Spiller and Frazier University of Pennsylvania Med. Bul December 1901

The local reaction was very slight, with no necrosis of tissue and little swelling or edema, no paralysis (It will be noted here that the injection was not made into the nerve trunk, but around it, nor was the acid injected into the foramina)

The toxicity of osmic acid as shown by Naunyn, Gmelin, Husemann and Brauell is mild, and only in doses of 2 grams or more, administered by the stomach, does it prove fatal to animals But one fatal case in man was reported by Raymond, the dose not given It is safe to say that administered hypodermically it is free from constitutional reaction

Osmic acid injections for peripheral neuralgia, says Joseph Lipburger,[3] were first recommended by Neuber of Kiel Osmic acid was used by Nicoladoni in a case of trifacial neuralgia of nine years' standing, originating in the supraorbital nerve, which was resected, and the pain then appeared in the infraorbital and mandibular branches These were each resected in succession and it then recurred in the supraorbital, six years after the first resection Sensation had returned in the whole face notwithstanding the resection of all the facial nerve branches and the mandibular, even up to the angle of the jaw, though it was not perfect compared with the opposite side, it was practically restored Patient, October 16-22, received six injections of 7½ m of a 1 per cent solution into the supraorbital area There was some gangrene after the second series of six injections of 2 cm of a 1 per cent solution This was slow to heal and left a dark scar The gangrene is attributed by Lipburger to the excessive quantity used so close to the skin (In this view I concur, while I have had no such result following any of my cases, there is a deep necrosis of the area around the point of injection) The pain in this case was absent for a year after the injection was made There was no incision made in Neuber's or Nicoladoni's cases, and no effort was made to inject the solution into the nerve substance, as was done by Mr Bennett The effect was supposed to be exerted on the peripheral nerves and not on the trunks It was cheerfully commended by Leipsiger, but dropped out of general observation until restored by Bennett

Jacobi[4] treated 18 cases of neuralgia with subcutaneous injections of 1 per cent osmic acid, giving one-half to one syringeful, of these, 8 cases, among which were 5 sciaticas, were cured, 2 improved, and 8 not cured It is most efficacious in inveterate sciaticas Application is not without danger Radial paralysis followed an injection into the arm

J Mercer[5] reports favorable results from deep injections of 1 per cent osmic acid in sciatica Relief following one to four injections between the tuber ischii and the trochanter major was temporary, though in the later cases there was greater relief than after morphin injections Twelve injections were made in one case

B M Schapiro[6] treated 8 cases of trigeminal neuralgia with subcutaneous injections of osmic acid (3 males and 5 females) Two males and 3 females were cured, 2 improved 1 unimproved He recommends osmic acid 0 1, water 6 0, glycerin 4 0 About twelve injections Bad results occurred only once in an epileptic woman He believes the result to be due to corrosion (aetzung) of the terminal branches Even though there are no cures and recurrences take place, the method is to be warmly recommended

W H Bennett[7] treated 12 cases of neuralgia with injections of 10 to 15 m of 1 per cent solution of osmic acid Ten cases were trigeminal, several of them with very severe symptoms (tic) One case an amputated stump in which the popliteal and peroneal nerves were injected In one case where the median nerve was injured and thickened with paralysis of long standing, the injection was made below the point of thickening, results were favorable in all cases Bennett laid the nerves bare by a short incision and injected 10 to 15 m of the solution into the nerve trunk, changing the position of the needle three times The cases were all obstinate Symptoms were alleviated in a few hours and disappeared within a few days There were slight recurrences in 2 cases—one in a different area, e g, that supplied by the auriculotemporal branch when the original pain was in the infraorbital Bennett operated on his first case in May, 1897 He believes the method ought to be applied early

PATHOLOGY OF TRIFACIAL NEURALGIA

The changes described by pathologists who have had opportunities to examine avulsed ganglia from operations, or to make postmortem examinations of the ganglia of trifacial neuralgia cases, are almost as varied and diverse as the number of investigators Hence it would be fair to say that there is no definite well-defined pathologic lesion that is found with anything like uniformity However, this does not detract from our interest in the pathologic findings reported by different investigators There is also a great divergence of opinion as to nerve changes proximal to division of the sensitive fibers or of the posterior roots of the spinal nerves, as well as the regeneration and degeneration of the trifacial

G Marenghi[8] made 127 experiments on animals, using the sciatic nerve He believes the following conclusions are established

1, Electric inexcitability in the scar, 2, impossibility of transmitting electric excitation through the scar, 3, excitability of the central stump, 4, excitability of the peripheral stump above the scar

The re-establishment of motor function is not indissolubly connected with regeneration of nerve fibers, but that function in a given territory may be re-established by collateral nervous paths, e g, the crural after-division of the sciatic

Keen and Spiller[9] remark that in six of their seven cases the lesions were intense in degree and unquestionable In the ganglia the medullary sheaths and axis cylinders were much swollen, the fibers atrophied, the sheaths empty, with nerve bundles in which the nerve elements had been destroyed and only connective tissue was left The ganglion cells were atrophied and stained faintly the blood vessels were sclerosed and even in some cases without a lumen

Garre,[10] in writing on nerve regeneration after extirpation of the gasserian ganglion, and the cause of the return of trifacial neuralgia, says the majority of trigeminal neuralgias are located in the peripheral nerves, therefore, recurrences after resection are not surprising and are due to this regeneration In one of Garre's cases, in spite of resection of the gasserian ganglion the second and third branches of the trigeminus were regenerated, the former twice He offers as explanation of the recurrences

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[3] Centralblatt für die Gesammte Therapie, 1884 Nicoladoni's Klinik

[4] Transactions of the American Neurological Association 1885 p 11

[5] The Lancet 1885

[6] Die Behandlung von Neuralgien mit Injectionem von Osmium Saure St Petersburger med Woch 1885 No 26

[7] The Lancet, Nov 4 1899

[8] Archives Ital de Biol 1898

[9] American Journal of the Medical Sciences November 1898

[10] Archiv für Chirurgie, 1889 vol lix p 390

1 Hysteria (I do not consider this of any value, merely another expression for an absence of definite knowledge)

2 Seat of neuralgia in the brain center

3 Regeneration of nerves through anastomosis or imperfect resection of the ganglia

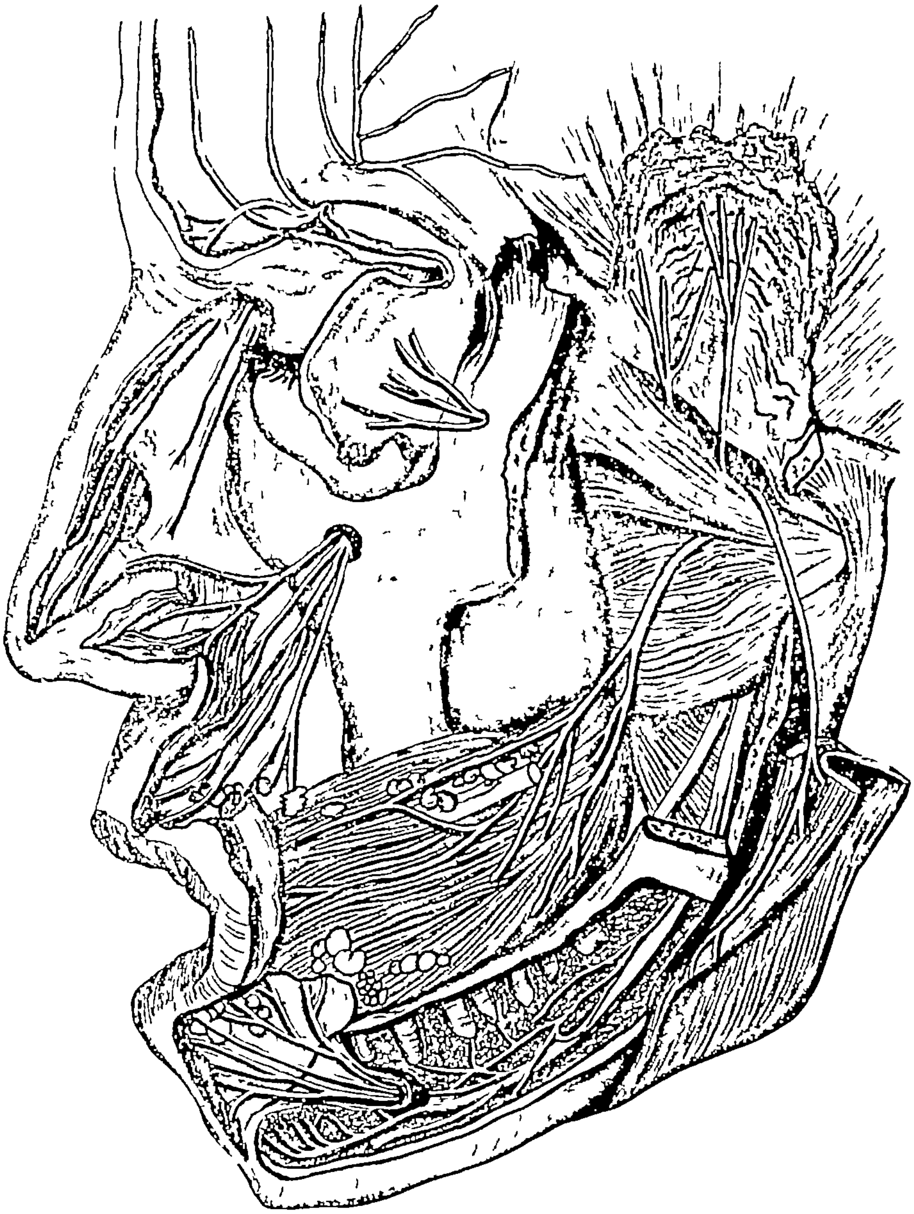

Fig 1 —Shows the supraorbital in two divisions the infraorbital the submaxillary or mandibular and the lingual branches (From Toldt)

In his cases cited above there was no question as to complete removal of the ganglia

I F Barker[11] examined two cases using Nissl's method There were scarcely any normal appearing cells in some there was an absence of tigroid bodies Some of the nuclei were swollen there was no typical Marchi degeneration no pigmentary changes in cells, no vascular changes and no interstitial hypertrophy Concentric bodies were present

T C Renton[12] reports examination of two ganglia in which there was absolutely no abnormality

Schafer[13] states Van Gehuchten and Nelis observed that sensory nerve cells of the vagus ganglion disappeared after cutting fibers If this were true of other sensory nerves it would be difficult to see how they could ever regenerate Restoration of function would have to be explained by ingrowth of sensory fibers from other areas of distribution Other observers have not confirmed these statements as far as the spinal root ganglia are concerned

Sidney I Schwab[14] collected 20 cases from the literature in which ganglia were examined after removal Few of these cases will stand criticism He also examined two cases, in one of which the nerves had been resected ten years previously In both cases the nerve cells must be regarded as pathologically altered, but in neither to such an extent as to consider them permanently affected The definite changes usually found in acute or long-standing parenchymatous nerve cell affections are absent The more marked changes in one of the cases lose significance from the fact that the nerves were previously resected Neuritis and atrophy were probably present The concentric bodies of brain sand found in one case and which have been described by Barker and Spiller are probably corpora amylacea Their pathologic significance is probably *nil* He concludes that trigeminal neuralgia has no definite pathologic entity That it is

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[11] The Journal A M A May 5 1900

[12] British Medical Journal Nov 17 1900

[13] Text book of Physiology London 1900

[14] Annals of Surgery vol xxxiii 1901

1 A neuritis beginning in the terminal divisions of the fifth nerve, and having a tendency to ascend to the ganglia

2 An interstitial inflammation, chronic and progressive, of the ganglion itself

3 Central neuralgia or neuritis, affecting the sensory root as it leaves the pons

He believes also that wherever the process is located, removal of the ganglion must be the first means of relief

Krause in his report (Die Neuralgie des Trigeminus), of the study of four cases of trigeminal neuralgia, remarks that the ganglion cells showed pigmentation, vacuolization and atrophic appearances There were no changes in the blood vessels and no interstitial neuritis He believes that the changes are, first, parenchymatous in nature, and, second, that the myelinized nerves are involved later

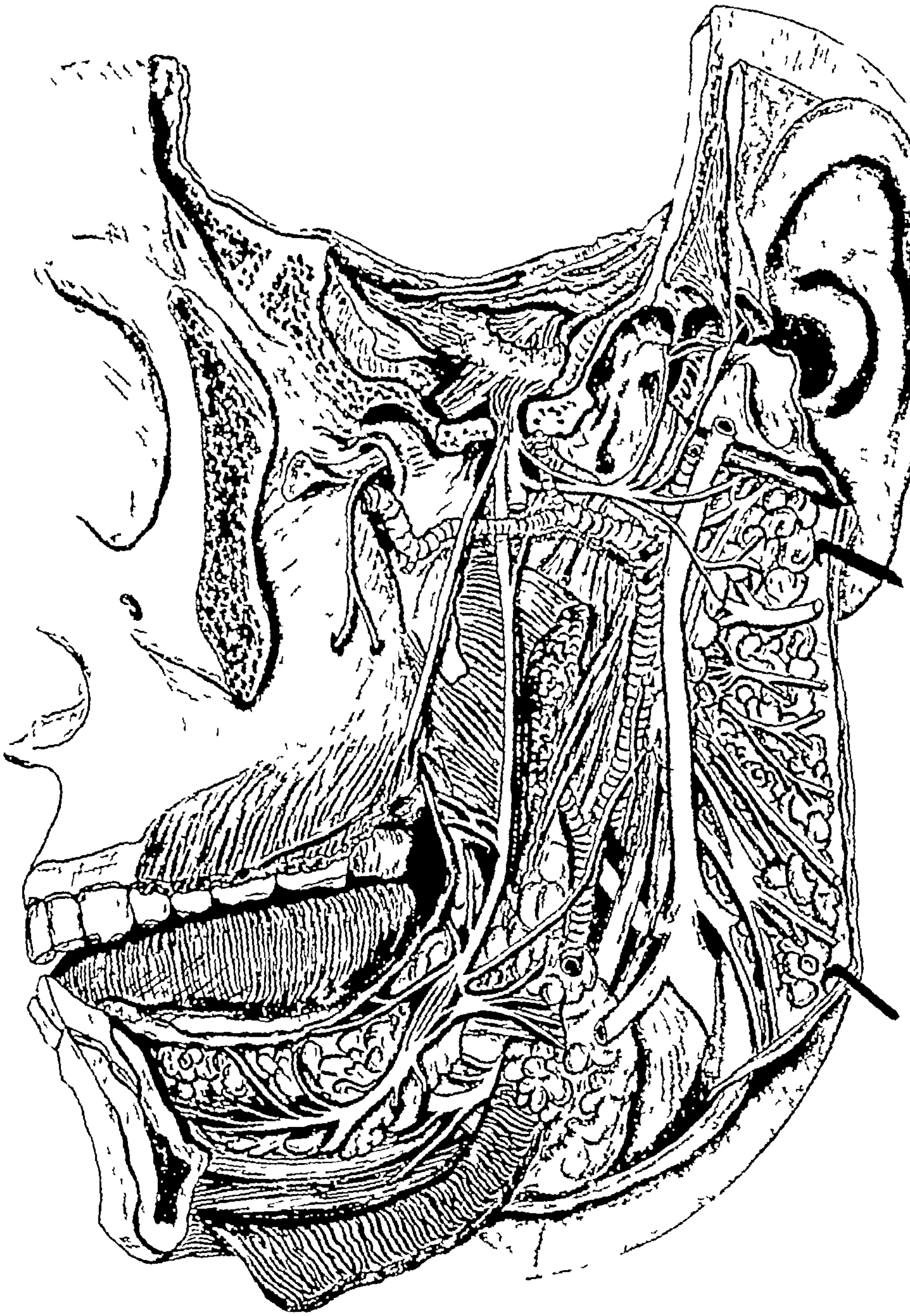

Fig 2—Shows the ganglia and the relations of the branches at the exit from cranium as well as the glandular divisions (From Toldt)

P L Friedrich[15] reports a case of recurrence on both sides after complete successful exsection of the ganglion on one side He explains this—according to Garré's hypothesis—that by means of nerve regeneration and collateral nerve branches the sensory trigeminus center is certainly brought into communication with the periphery (This, we believe from our observations, comes nearer to the true explanation of the recurrences of trifacial neuralgia)

W G Spiller and C H Frazier[16] report the division of the sensory root of the trigeminus for the relief of tic douloureux The sensory roots of the trigeminus were resected in dogs Experiments were not conclusive, but rather contradicted regeneration A canvass of the literature convinced them that regeneration had not been established in man and that no recurrence of its function was known after resection of the sensory root

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[15] Deut Zeitschrift für Chirurgie, vol III p 360

[16] Univ of Penn Medical Bulletin, December 1901

They again report[17] the division of three posterior roots in dogs The animals were killed at the end of ten months There was absolutely no trace of regenerated nerve fibers in the cord The intramedullary portion of the roots was completely degenerated

Spiller and Frazier[18] further report on the treatment of tic douloureux by division of the sensory root of the gasserian ganglion The rationale of the operation depends on the inability of this root to undergo regeneration They proved that only those nerve fibers provided with sheaths of Schwann have the possibility of regeneration This was confirmed by Ballance and Stewart[19] Therefore, regeneration of peripheral nerves is common, while regeneration of the nerve fibers of the central nervous system is rare, if it occurs at all This leads to revival of the old theory of peripheral regeneration

After resection of the sensory root, if nerve fibers have grown out from the sheath of Schwann, they can only go as far as this sheath is present, i e to the point of entrance of the sensory root into the pons They report one successful case with complete anesthesia at the end of one year

The findings reported by Spiller and Frazier from the division of the posterior roots in dogs do not correspond with those obtained by Y Bikeles in the Physiologic Institute of Prof A Beck[20] in Lemberg This author showed by experiments that after compressing the posterior roots there are slight attempts at regeneration, contrary to the theory advanced that there is no intramedullary regeneration

No positive evidence has been obtained to show that regeneration of nerve fibers takes place within the nerve centers after artificially produced lesions It is remarkable, however, that outside of the nerve centers or ganglia the nerves are regenerated and that the regenerated fibers find their way along the old nerve sheaths to the same structures to which they were distributed before section or degeneration occurred Regeneration on the distal side of division of a nerve cylinder is readily understood, as the cylinder is merely an extension of the cell from its nucleus, and cell portions do not long survive when they are disconnected from their nucleus It is well recognized that distal degeneration takes place early in motor fibers after division and that proximal degeneration advances slowly, probably from non-use, as after amputation This may account for the absence of degeneration in specimens obtained in our first experiments, as the time was so short, but the paralysis was complete and continuous The portion of the nerve cut off from the central cell nucleus always undergoes degeneration Even after division ascending degeneration is limited to a small distance, after division of a sensi-

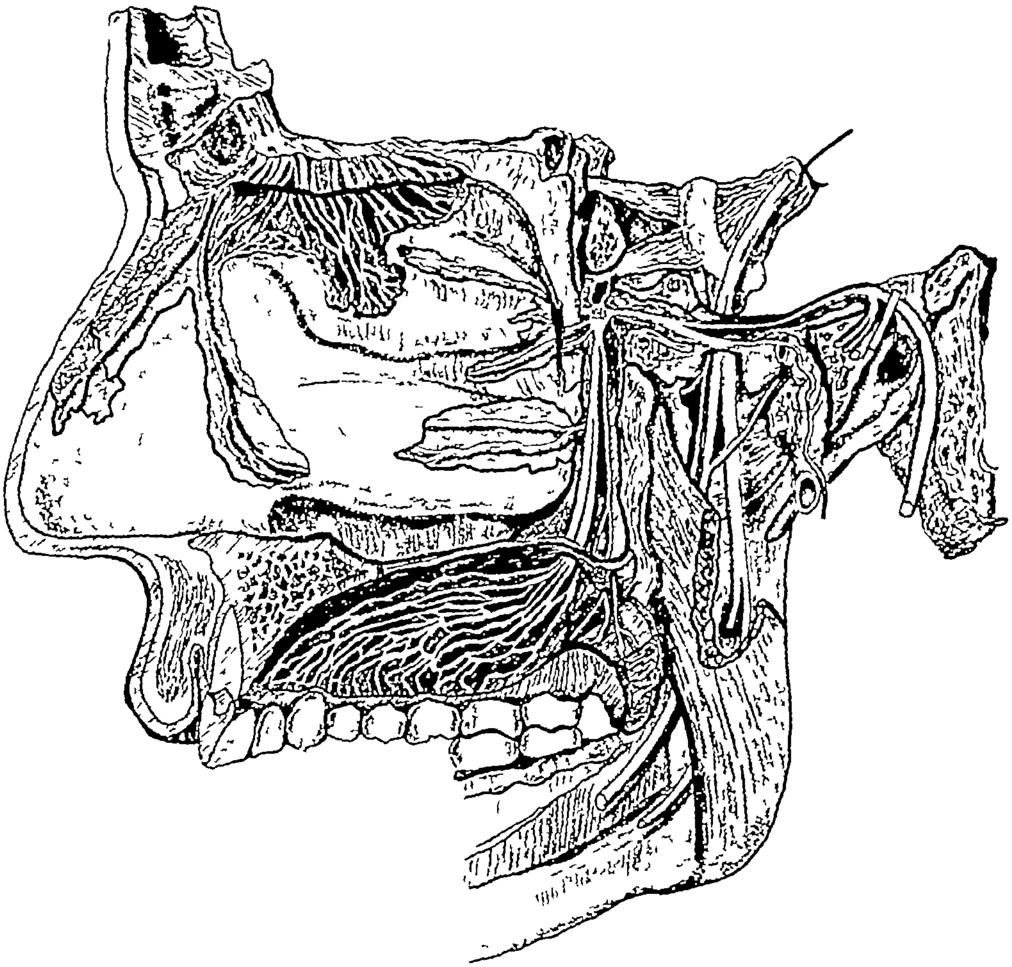

Fig 3—Shows the posterior palatine the posterior palatine foramen and the mandibular branch (From Toldt)

tive nerve, chromatolysis can not be attributed to loss of function or action. It has not yet been satisfactorily explained why, after complete division, some nerves are rapidly (by primary adhesion) restored to function, others by secondary regeneration are restored, while still others, either after division and after reapproximation (either immediate or remote), or after "pressure paralysis" without division, never regain function, still these facts exist clinically, and we must accept them in our empirical treatment of diseased, divided and contused nerves, as well as to hope that chemical substances may permanently interrupt conduction from the periphery to the center and *vice versa*. It is on this clinical basis that we are justified in hoping the trunk injections may produce more lasting inability of transmission of impulse than neurotomy or neurectomy. From Goltz's experiments it is fair to assume that bodily pain can be of central nerve origin and this is supported by irritative lesions of the thalamus (Schafer).

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[17] Univ of Penn Medical Bulletin 1902

[18] Philadelphia Medical Journal October 1902

[19] The Healing of Nerves, Macmillan & Co 1901

[20] Neurologisches Centralblatt 190[illegible]

Last year[21] I made a preliminary report of a case operated on June 8, 1903, with the technic which has been followed, practically the same, in all subsequent cases except that I am using a 2 per cent. solution of osmic acid, where formerly I used a 1½ per cent. solution. The case reported at that time has continued free from pain up to date. In that communication I have the results of Sir William Bennett's cases as published in the London *Lancet*, Nov. 4, 1899. I have now the pleasure of reporting his more extended experience with results down to Jan. 22, 1904, as given in a personal letter, for which I express my sincere appreciation. It is as follows:

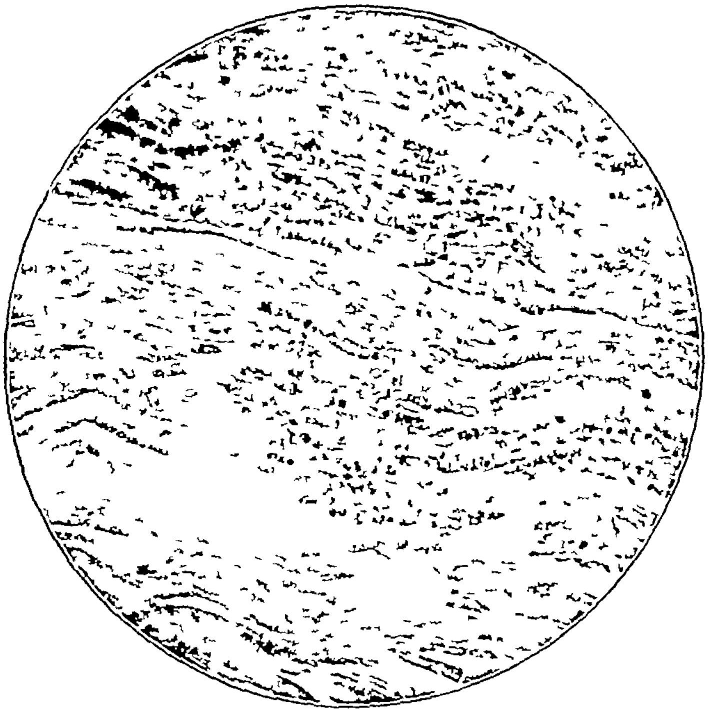

Fig. 4.—Shows a section of the nerve trunk with osmic acid discoloration and granulation condition of axis cylinder.

Results of first 20 consecutive cases operated on.

First case treated July, 1897.

2 patients remained altogether well at the end of 4 years.
2 patients remained altogether well at the end of 3 years.
3 patients remained altogether well at the end of 2 years.
2 patients remained altogether well at the end of 1 year.

Two cases may be regarded as failures, i. e., the relief was only temporary (3 months and six months). Two patients died without recurrence (1 in 9 months and 1 in 6 months) from causes unconnected with the condition for which the treatment was adopted. Six were lost sight of within 9 months after the operation.

In the other cases operated on, the time which has elapsed since the treatment is not sufficient to justify any conclusion.

In 3 of the successful cases recurrence of pain occurred: 1 at the end of 6 months, 1 at the end of 8 months, 1 at the end of 12 months.

The symptoms subsided in one of these cases after a second injection, and no further trouble had arisen when the patient was last heard from.

EXPERIMENTS.

In order to determine, if possible, the *modus operandi* of cure I have made the following experiments:

Dog No. 35.—Large size, male. Operated on Aug. 14, 1903. Osmic acid solution 1.5 per cent., freshly prepared, injected into trunks of both brachial plexuses, 5 nerve trunks were injected on each side and both supraorbital nerves. Incisions closed with subcutaneous catgut sutures.

August 18.—Extensor muscles of both fore legs paralyzed. Dog walks with paws doubled under legs. Paralysis appeared on second day and was complete on the third.

August 25.—Paralysis continues as on 18th.

September 11, 1903.—Paralysis has continued. Anterior surfaces of fore feet ulcerated from pressure of the flexed paws in attempt to walk. Dog killed with chloroform, and specimens from supraorbital nerves and brachial plexuses secured for microscopic examination. No gross changes except at points of injection where tissues were blackened.

Dog No. 37.—Small, male. Operated on Aug. 14, 1903. Osmic acid injections in trunks of both brachial plexuses, 3 on right side and 2 on left, and in right supraorbital nerve. Incisions closed with subcutaneous and over and over catgut sutures.

August 18.—Right foreleg paralyzed in extensor muscles as in dog No. 35. Left not paralyzed.

August 25.—Condition same as on 18th. Right axillary wound open and granulating but clean. Paralysis same.

Sept. 11, 1903.—Paralysis has continued. Ulcerations on anterior surface of fore feet (larger on right) from walking with paws flexed. Left cornea opaque with whitish secretion. Nutrition poor. Dog killed with chloroform. Brachial plexuses dissected to cord and specimens taken from following situations for microscopic examination: 1, at site of injection, 2, proximal to injection, 3, anterior nerve roots and posterior roots with ganglia, 4, sections of cord at levels of these roots. Both supraorbital nerves dissected out and following specimens taken: 1, at site of injection, 2, proximal to injection, 3, gasserian ganglia, 4, sections of pons and medulla with sensory roots and nuclei. Specimens put in Mueller's fluid. No gross lesions except at points of injection where nerves were blackened.

The microscopic findings on the slides made from the injected nerves as given by Prof. F. R. Zeit and Dr. A. A. Goldsmith of the Pathologic Department of the Northwestern University and concurred in by Professor Hill are as follows:

Stains were made both by the Weigert Pal, and also by the usual hematoxylin and eosin method. All the tissues were fixed in Mueller formalin. The Marchi method was not used in these specimens to show the degeneration of the nuclein sheath but was used in the experiments conducted for me by Dr. Dunn.

Dog No. 35.—Anterior roots and posterior ganglia of roots of left side, normal. Injected trunks of right plexus: Many of the medullary sheaths of the nerve fibers stained brownish black by the osmic acid. Anterior roots and posterior ganglia of left side normal. Injected trunks of left plexus: Many of the medullary sheaths of the nerve fibers stained brownish black with the osmic acid. Anterior root and posterior ganglion of right side normal. Injected part of the right supraorbital nerve: Some of the medullary sheaths of the nerves are stained brownish black by the osmic acid. Injected part of left supraorbital nerve, practically the same as right. Ophthalmic division of the 5th nerve proximal to injected supraorbital nerve of left side normal. Gasserian ganglion and ophthalmic division of the fifth nerve (left), normal Gasserian ganglion and part of sensory root (right), normal

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[21] The Journal A. M. A., Aug. 2[illegible], 1903.

Dog No 37—Right gasserian *ganglion normal* Ophthalmic division of the 5th nerve and gasserian ganglion not injected (left), *normal* Pons and medulla with sensory root of 5th nerve, normal Injected trunk of brachial plexus (right) Many of the nerve fibers show their medullary sheaths stained brownish black with osmic acid Trunks proximal to injection in brachial plexus (right), normal Cord at level of brachial plexus, normal Trunks on proximal side of injection in brachial plexus (left), normal Anterior roots and posterior ganglia of brachial plexus (right), normal Injected trunks of left brachial plexus The medullary sheaths of many nerve fibers show a brownish black stain from the osmic acid Anterior roots and posterior ganglia of trunks of left brachial plexus, normal

While the motor nerves were paralyzed by the injection the microscopic report does not show that there was an ascending or descending degeneration or any change other than the local ones at the site of the injections in the nerve This is not sufficient to account for the clinical phenomena as obtained in our cases nor is it what should be found after a chemical destruction of a motor or combined nerve Still the fact remains that there was complete paralysis of the motor nerve and some trophic changes as well It shows that we are not permitted to use the osmic acid injections in neuralgias affecting the motor nerves

Additional experimental injections were made under my direction by Dr A D Dunn on four dogs to determine through a second source the pathologic changes produced by the injection of osmic acid into the nerve trunks and to check the former experimental results

Dog No 1—Injected March 3 1904 About 15 m of a 1½ per cent aqueous solution of osmic acid were injected into each of the supraorbitals and the cords of the brachial plexus The supraorbital incisions were closed with horsehair The axillary incision was closed with catgut and silkworm gut The connective tissue sheath *enclosing cords* of brachial plexus and great vessels was reunited with catgut

Complete paralysis of right upper extremity occurred immediately following injection and persisted until the dog was killed on the 13th day The right supraorbital incision healed by primary intention the left with a slight amount of suppuration The dog gnawed the stitches of the axillary wound which broke open and suppurated freely

Necropsy March 17 1904—Right supraorbital incision clean, an indurated lump to be felt beneath it The supraorbital nerve is buried in a mass of blackened tissue The nerve for about 1½ inches is blackened smaller in caliber and more or less adherent to surrounding tissues No suppuration Macroscopically no change could be observed distally or proximally to point of injection Left supraorbital some suppuration from wound There is a more extensive mass of inflammatory tissue The nerve when dissected out appeared similar to the right Brachial large suppurating subcutaneous pocket Considerable inflammatory deposit After sheath, which had been reformed by suturing fascia over nerves, was dissected off the nerves were readily obtained The inflammatory process seemed to have affected them little The nerves were completely blackened for a distance of 1¼ to 1½ inches Distally the diameter of the nerve seemed diminished Proximally no changes were apparent The gasserian and cervical spinal ganglia with corresponding part of cord were removed No gross changes were noted

Dog No 2—Small puppy Injected March 12 1904 About 15 m of a 1½ per cent aqueous solution of osmic acid were injected into each of the cords of the right brachial plexus and the right supraorbital The nerves were small and the injections made with difficulty The wounds were closed with silkworm gut and with catgut to unite fascia to form sheath over brachial plexus Complete paralysis of right anterior extremity *followed and persisted* up to necropsy The wounds healed by primary intention

Necropsy March 26, 1904—Induration present under right supraorbital, the injected nerve was dissected out of a mass of recent inflammatory tissue, no pus The nerve was very small and blackened for about 1¼ inches There was considerable blackening of the adjacent tissues Distally to, and at the point of injection, the caliber of nerve seemed diminished The left supraorbital was removed as a control Axillary wound healed, a considerable amount of inflammatory tissue lay about sheath of great vessels and nerves and in the para neurotic tissues The cords were blackened for 1½ inches with some diminution in their caliber at and distal to point of the injection No gross changes in cervical cord and ganglia or in gasserian ganglia

Dog No 3—Small puppy Injected March 12 1904 About 15 m of a 1½ per cent aqueous solution of osmic acid were injected into each of the supraorbitals and into each of the cords of the right brachial plexus The nerves were small and the injections were made with difficulty Much of the osmic acid escaped into the surrounding cellular tissues The supraorbital incisions were closed with silkworm gut The fascia over great vessels and brachial plexus was carefully reunited with catgut the skin incision closed with silkworm gut

Complete paralysis of the right foreleg occurred immediately following the injection and persisted until death on the 10th day There was a small amount of suppuration of right supraorbital wound The other wounds appeared to have healed by primary intention

Necropsy March 26, 1904—Induration present beneath both supraorbital wounds Suppuration from right, stitches in situ Inflammatory masses on both sides but greater on the right The tissues about nerves were much blackened The nerves were dissected out with considerable difficulty The nerve trunks were blackened for about 1¼ inches No changes distally The caliber of the nerve was only slightly diminished at the point of injection Axillary wound healed Stitches in situ After opening wound a small pocket of pus was discovered Amount of inflammatory reaction greater than usual, but the nerves were easily freed They were blackened for a distance of about 1½ inches No diminution in the diameter of trunks No gross changes in gasserian ganglia in cervical ganglia, or in cervical cord

This dog was also a small puppy Consequently injections were made with considerable difficulty and did not prove as satisfactory as on the first dog, which was very large and whose nerves were large, so that the osmic acid was easily retained within the sheath

Dog No 4—Injected March 30, 1904—The supraorbitals and cords of the brachial plexus were each injected with about 15 m of a 1½ per cent solution of osmic acid in water The nerves were laid bare and their trunks injected under aseptic precautions The incisions were closed with silkworm gut suture The fascia in the axilla was brought together with catgut The wounds healed by primary intention There was an immediate partial paralysis of the upper extremity on the injected side This rapidly disappeared so that there was little residual paralysis at the end of two weeks

Necropsy April 14, 1904—Supraorbital nerves are buried in a mass of inflammatory tissue The nerve trunks are completely blackened for about 1½ inches No changes are apparent proximal or distal to the point of injection No suppuration in axillary wound There is a considerable amount of inflammatory tissue Some of the trunks are blackened only superficially The osmic acid has apparently not penetrated well A trunk was selected in which the penetration seems to have been good There are no gross changes in the ganglia or cord

The following pieces were taken for microscopic examination At, distal to and proximal to the point of injection, the gasserian ganglia, cervical ganglia and parts of cervical cord.

This case differed from the others in not showing any of the slight changes that were present in the ganglia There was little or no diffusion of the Nissl bodies, and the nuclei were for the most part located centrally

It may be noted in these experiments that about 15 m of a 1½ per cent aqueous solution of osmic acid were injected into each nerve trunk, under aseptic precautions The supraorbitals and cords of the brachial plexus were selected for this purpose The nerves were subjected to as little trauma as possible, and the injections were made slowly The fascia was always reunited over the cords of the brachial plexus with cat gut, and the skin wound closed with horsehair or silkworm gut

The wounds usually healed by primary intention Complete paralysis of the leg in which the brachial plexus had been injected, occurred immediately and persisted until death The dogs were killed about the 13th day after the injection There was a considerable amount of inflammatory reaction in the tissue surrounding the nerve The supraorbital nerves were embedded in a blackened inflammatory mass from which they had to be dissected with care There was a considerable amount of inflammatory reaction about the cords of the brachial plexus, but the cords themselves lay comparatively free in the reformed connective tissue sheath The nerve trunks were more or less blackened for a distance of 1 to 2 inches In several instances the size was slightly diminished at, and distal to the point of injection No gross changes were observed in the proximal portions of the nerve trunks, in the ganglia or in the cervical cord

MICROSCOPIC FINDINGS IN INJECTED NERVE TISSUE AT DISTAL, AND PROXIMAL TO THE POINT OF INJECTION AND IN GANGLIA

Dog No I —Ganglia overheated Nissl's stain was unsatisfactory

	Right Supraorbital				Left Supraorbital				Cord of Brachial Plexus			
	At	Distal	Proximal	*Ganglia	At	Distal	Proximal	Ganglia	At	Distal	Proximal	Ganglia
Diminution in caliber	Slight				?				+	?		
Focal necrosis	Slight				Slight				Slight			
Round cell infiltration	Slight				Slight				+			
Polymorphonuclear leucocytes	Few				Few				Few			
Derangement of nerve fibers	+ +				+ +				+			
Degeneration of myelin	+ +	+ +	–		+ +	+ +		—	+ +	+ +		—
Staining of paraneurotic fat from injection	+ +				+				+ +			

* Nissl bodies not stained well subjected to too much heat in embedding

Dog No II —Dog was a puppy nerves small therefore injection does not seem to have taken well left supraorbital taken as control

	Right Supraorbital				Brachial Plexus			
	At	Distal	*Proximal	†Ganglia	‡At	Distal	Proximal	§Ganglia
Focal necrosis	Slight				Slight			
Round cell infiltration	Slight							
Polymorphonuclear leucocytes								
Derangement of nerve fibers	Slight				Slight			
Degeneration of myelin	Slight	Slight	Slight	—	Slight	Slight		—
Staining of paraneurotic fat at seat of injection	+							

* Just above point of injection † Diffusion of Nissl's bodies in many cells nucleus at periphery of cell
‡ Injection does not seem to have penetrated well § Diffusion of Nissl's bodies peripheral location of nuclei

Dog No III —This dog was also a small puppy, consequently injections were made with considerable difficulty and did not prove as satisfactory as on the first dog which was very large and whose nerves were large, so that the osmic acid was easily retained within the sheath

	Right Supraorbital				Left Supraorbital				Cord of Brachial Plexus			
	At	Distal	Proximal	†Ganglia	At	Distal	Proximal	‡Ganglia	At	Dista	Proximal	§Ganglia
Focal necrosis	Slight				+				Slight			
Round cell infiltration	Slight				+				Slight			
Polymorphonuclear leucocytes									Few			
Derangement of nerve fiber	+				Slight				+			
Degeneration of myelin	Some			—	Slight	Slight			+ + +	+ + +	Slight*	
Staining of paraneurotic fat from injection	+				+				+ +	—		

* Immediately above point of injection † Diffusion of Nissl bodies in many cells, nuclei of many cells at periphery ‡ Slight changes as recorded in other nerve § Diffusion of Nissl's bodies quite marked, also peripheral location of nuclei

Dog No IV

	Right Supraorbital				Left Supraorbital				Cord of Brachial Plexus			
	At	Distal	Proximal	†Ganglia	At	Distal	Proximal	‡Ganglia	At	Distal	Proximal	‡Ganglia
Inflammatory reaction					Slight							
Focal necrosis												
Derangement of fibers	Slight	—			+				Slight	Slight		
Degeneration of myelin	+ +	+ +			+	Slight			+ +	Slight		
Diminution in caliber	Slight	Slight			+							
Leucocytic infiltration	Occas'l				Slight							
Blackening due to osmic acid injection	+*				+				+			

* Fosin affects the myelin of a few fibers blackening the sheath uniformly † No marked changes ‡ No changes

Two pieces were taken at the point of injection, proximal to, and distal to the point of injections and put in Mueller's fluid, 90 parts, formalin 10 parts After one to two days, sections from each portion were washed in water for 24 hours, mounted in paraffin and stained with hematoxylin and eosin The remaining pieces were left for two weeks in Mueller's fluid, which was changed several times to get rid of the formalin They were then placed in Marchi's mixture, which consists of Mueller's fluid 2 parts, 1 per cent osmic acid, 1 part, and left for six days They were then washed in water for two days and afterwards remounted in paraffin By this method any fatty degeneration occurring in the myelin sheath of the nerve fibers can be demonstrated It has been found that myelin which has been mordanted for eight days or over in Mueller's fluid or other solutions of the bichromates, loses the power of reducing osmic acid, while fat retains this property unimpaired The gasserian ganglia and the cervical ganglia connected with the exsected pieces of nerve were removed and placed in Zenker's fluid and stained with hematoxylin eosin and by Nissl's method after they were mounted in paraffin Specimens were taken from the cervical cord to be examined later if changes elsewhere should warrant it

Microscopic Examination—The most important changes were found at, and distal to the point of injection The degree of pathologic alteration varied to a considerable extent dependant on the thoroughness of the injection and whether infection had resulted For example, in one nerve that to all appearances was perfectly injected and blackened throughout, degenerative processes were found only in a limited portion At the point of injection there was always more or less staining of the paraneurotic and interstitial fat with the osmic acid There was quite marked derangement of the fibers The inflammatory reaction was always less extensive than might naturally be expected An occasional area of focal necrosis, a few foci of round cell infiltration, and here and there a leucocyte, attracted thither by the foreign substance, were all that was to be noted

Distal to the point of injection the nerve trunk in some cases seemed atrophic, but there were no interstitial changes Proximally, no changes were to be found except in the immediate vicinity of the injection At and distal to the point of injection, there was more or less extensive fatty degeneration of the myelin sheath, this varied in amount from the involvement of all the fibers to an occasional fiber Proximally the myelin was unaffected, except immediately above the limit of blackening, which was our means of defining the extent of injected area

There were no signs of inflammation in the ganglia Slight changes, similar to those one would be led to expect after nerve resection, were present The nuclei of many of the cells were located at the periphery and the stainable substance of Nissl was diffused throughout the cytoplasm

(*To be continued*)

Note—The conclusion of Dr Murphy's article next week will be followed by the discussion on the papers of Drs Sherman Frazier and Murphy

BLOOD PRESSURE AND PULSE RATE

AS INFLUENCED BY DIFFERENT POSITIONS OF THE BODY *

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HISTORY

The blood pressure in the arteries was first measured with some degree of accuracy by Stephen Hales in 1733 He ordered a mare to be tied down on her back into whose crural artery, about three inches from her belly, he inserted a brass pipe one-sixth inch in diameter To this pipe by means of another brass pipe, he fastened a glass tube 9 feet long, and of nearly the same diameter as the pipe in the artery He then untied the ligature on the crural artery, as a result of which the blood rose 8 feet 3 inches above the level of the ventricle of the heart [1]

While blood pressure can be measured in this way with some degree of accuracy, there are several objections to the method, chief among which are the following 1, Through the uncomfortable position of the animal and the consequent effect on the vasomotor nerve fibers, the pressure is likely not to be the same as it would under normal conditions, 2, the inaccuracy due to the speedy coagulation of the blood, 3, the clumsiness and inconvenience of the apparatus

Poiseuille, many years later, improved this method of Hales by substituting for the glass tube a mercurial manometer The tube connecting this manometer with the artery was filled with a solution of sodium carbonate to prevent coagulation of the blood [2]

Later, Ludwig made an improvement on Poiseuille's mercurial manometer by placing on the mercurial column a float carrying a writing style, by means of which records of the variation in pressure could be taken on revolving drums By means of the apparatus a fair degree of accuracy can be obtained, but the oscillations of the mercurial column, due to inertia, render it objectionable The mercurial manometer, however, has been used very extensively and with very valuable results

Piorry, a noted French physician, was one of the first to observe the effect of the force of gravity on the circulation, i e, the effect of the change of position on the blood pressure His observations, however, were clinical Having been called to a patient who had lost consciousness, and who was being supported in a sitting position by his friends, he placed him in a horizontal position, after which the patient at once regained consciousness Hill has also found, through a trephine hole in the skull, that the intracranial pressure is negative in the sitting posture and positive when the head was bent down toward the knees [3]

Many other observations of the same nature have been observed clinically on the human subject and experimentally on the lower animals

Most of the work on the lower animals has been done by inserting a cannula connected with a mercurial manometer into the carotid or femoral artery, and then shifting the animal from one position to another, about a horizontal axis which passes through the point of insertion of the cannula In this way, quite accurate results have been obtained Of course the animals were invariably narcotized or anesthetized

So far as we have been able to learn the experimental observations on blood pressure in different positions of the body have been confined to the horizontal, vertical feet-down and vertical feet-up positions The same is true of the pulse rate The clinical observations have been confined to the horizontal, head-up and head-down at no particular angle

Since the advent of the sphygmomanometer, experiments have been performed on the healthy human subject in the standing, sitting and horizontal postures

The pulse rate in the human subject in different positions of the body, so far as we have been able to learn, was first studied by Guy,[4] who made observations on 100 men, averaging 27 years of age, in the standing, sitting and lying positions He found the pulse rate to be highest in the standing, lower in the sitting and lowest in the lying positions

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology and approved for publication by the Executive Committee Drs. V C Vaughan Frank B Wynn and Joseph McFarland.

[1] Statistical Essays vol ii after Hill Schäfer's Text book of Physiol 1900 vol ii

[2] Rech sur la force du coeur aortique Thèse Paris 1828, after Hill Schäfer's Text book of Physiol 1900 vol ii

[3] Hill Journal Physiol Cambridge and London 1895 vol xviii p 15

We see, then, that the subjects of blood pressure and pulse rate in different positions of the body are not new ones, that some of the apparatus used in getting blood pressure was inaccurate, that experimental observations were on narcotized or anesthetized animals, that clinical observations on blood pressure in the different positions of the body are *confirmatory of the* experimental observations

In our work on blood pressure we have dealt with the subject in a different manner, in some respects, from our predecessors insomuch as we have chosen more positions of the body and have taken the pressure on both sides of the body in each position

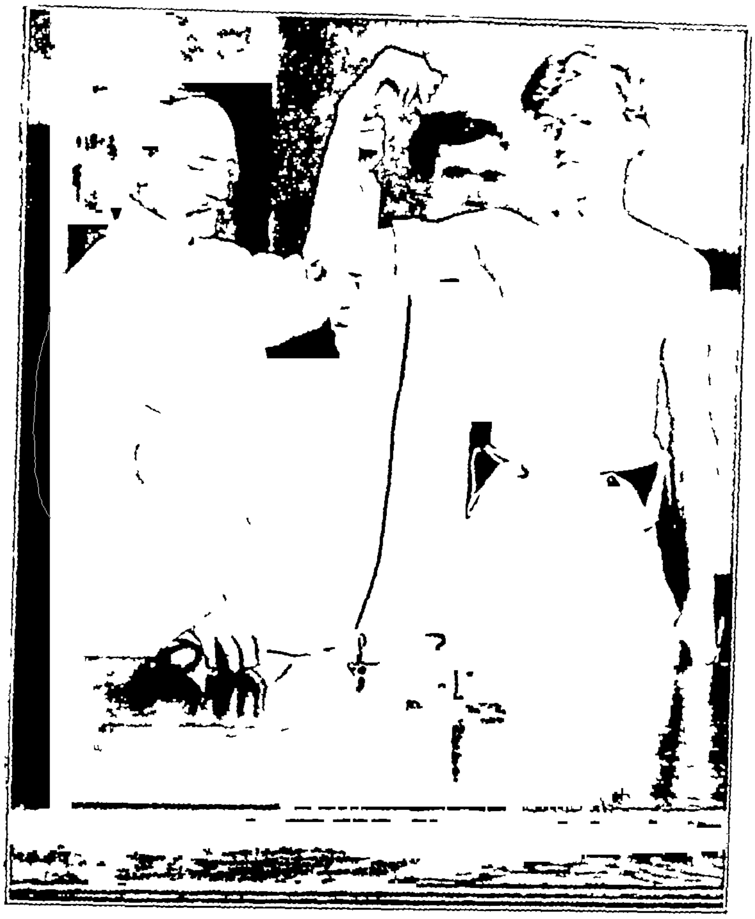

Fig 1—Standing

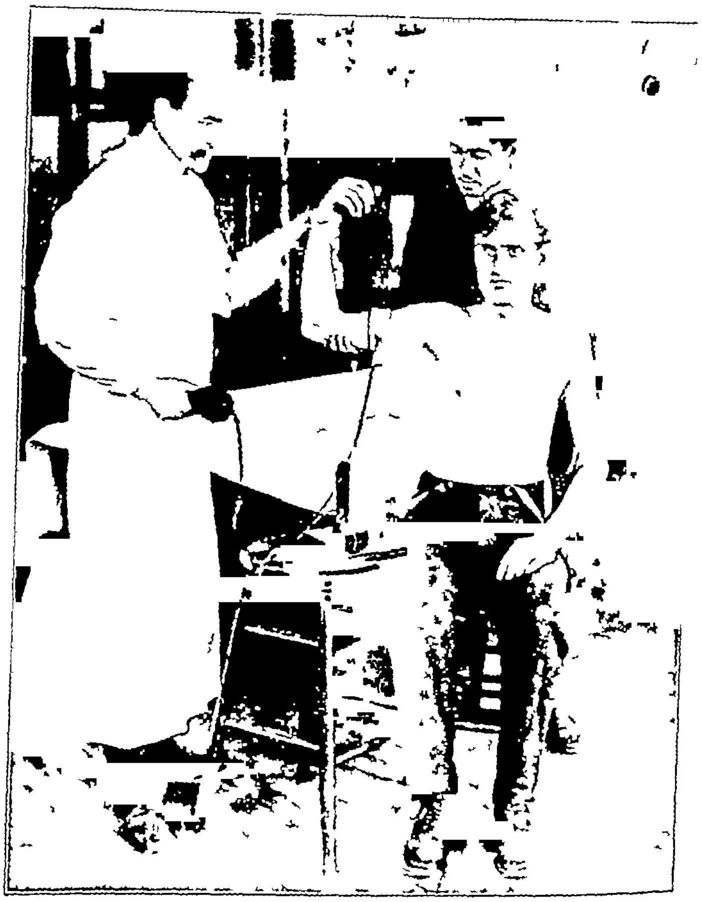

Fig 2—Sitting

METHOD

(a) *Subjects*—The subjects used in these experiments were twenty-two male medical students, with an average age of 24 years and an average height of 170 cm In one of these subjects, however, the pulse rate was not obtained, hence only twenty-one are used in making computations on pulse rate In changing from one position to another they were allowed to remain long enough in the new position for the circulatory apparatus to become adjusted to the new conditions before observations, either on blood pressure or pulse rate, were taken Every means was taken to keep them comfortable and to avoid anything which would tend to provoke excitement or muscular effort The rate of respiration was also kept normal

(b) *Apparatus*—The instrument used in taking the blood pressure was the Riva Rocci sphygmomanometer as modified by H W Cook The instrument is now so well known among physiologists that a description of it here is not demanded

(c) *Technic*—Each of the twenty-two men were taken through the following positions 1, Standing, 2 sitting, 3, supine, 4, head down at an angle of 45 degrees, 5, right lateral, 6, left lateral

The blood pressure was taken in both brachial arteries in each position by placing the band of the instrument around the upper arm midway between the elbow and shoulder

The pulse rate was also taken in each position, the count being taken through a whole minute of time

In taking the pressure in the standing position, the *patient stood erect*, the upper arm was abducted to the *horizontal* plane and the forearm flexed at right angles to the brachium and held perpendicularly, with the hand uppermost The arm was supported in this position by an assistant in order to relieve the subject of any muscular effort in sustaining the arm himself The opposite arm was allowed to hang laxly by the side

In the sitting position, the subject sat on a stool, with the thighs parallel and flexed at right angles to the axis of the body The legs were flexed at right angles to the thighs The arm in which the pressure was taken was held in the same position in relation to the body, as it was in the standing posture (the assistant supporting it) while the hand of the opposite arm lay laxly on the thigh of the same side

The subject in the supine posture lay flat on his back with legs parallel, and the arm on the opposite side to the one in which the pressure was taken lay parallel with and along side of the body The arm in which the pressure was taken was abducted to right angles with the body axis, and the forearm at right angles to the brachium and held perpendicularly Thus it is seen that the arm did not take the exact relation to the body in this position that it did in the standing and sitting postures In the latter, the brachium was so rotated that the inner aspect faced forward, while in this position the inner aspect of the brachium faced toward the feet having rotated through an arc of 90 degrees The variation in blood pressure, due to this slight difference in the relative position of the arm if there be any variation at all, would certainly be too insignificant to be taken into account

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[4] Hill Schafer's Text book of Physiol 1900 vol ii

The subject in the head-down position was placed on a table on his back, around his ankles were placed comfortable straps, which were fastened to one end of the table The end of the table was then elevated so that the subject hung with his head down at an angle of 45 degrees The arms assumed practically the same position, in relation to the body as they did in the supine position, the forearm of the arm operated on being held perpendicularly, and the opposite arm lying along side of the body

In the right lateral position our subject lay on the right side, the head raised to the horizontal level by a pillow, the legs parallel and straight, and the left arm parallel with and on the body The right arm was extended anteriorly at right angles to the body axis the forearm flexed at right angles to the upper arm and held perpendicularly when the pressure was taken in this arm When the pressure was taken in the left arm in this posture, the right arm was allowed to assume a position most comfortable to the subject, in order to obviate any nervous influence on the circulation which might arise from the subject being uncomfortable The left arm assumed the same relation to the body as it did in the supine when the pressure was taken in it This, of course, put the forearm in a horizontal plane

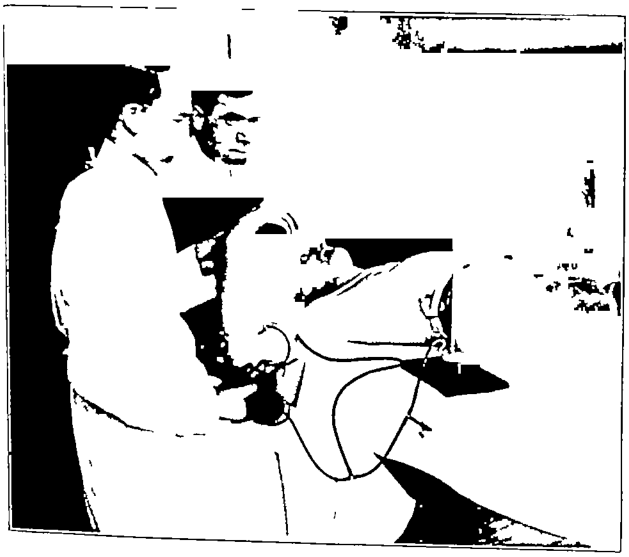
Fig 3 —Supine

The left lateral position is a repetition of the right lateral in reversed order, and need not be detailed further

RESULTS

After the pressure in each brachial was taken in a given position, the two results were averaged to obtain a mean pressure in that position The results of such observations together with the pulse rate, are shown in the following table

TABLE NO 1

No		Standing	Sitting	Supine	Head down	Right Lateral	Left Lat
1	Right arm	134	142	174	185	172	125
	Left arm	122	132	150	174	124	163
	Pulse rate	97	90	72	69	68	72
2	Right arm	146	153	163	170	157	119
	Left arm	146	153	155	171	118	158
	Pulse rate	85	81	64	57	59	63
3	Right arm	106	115	128	137	126	81
	Left arm	117	120	134	153	94	133
	Pulse rate	70	57	53	50	56	58
4	Right arm	134	146	177	199	193	135
	Left arm	131	145	158	179	128	102
	Pulse rate	93	87	83	87	84	78
5	Right arm	110	113	140	148	132	93
	Left arm	112	123	138	147	99	133
	Pulse rate	102	88	77	79	80	79
6	Right arm	133	11	157	159	140	108
	Left arm	136	138	151	151	111	170
	Pulse rate	118	93	71	71	88	78
7	Right arm	151	154	179	216	186	141
	Left arm	155	171	186	240	147	213
	Pulse rate	86	81	71	64	69	63
8	Right arm	124	127	140	143	150	108
	Left arm	102	107	145	193	115	145
	Pulse rate						
9	Right arm	127	120	134	148	141	92
	Left arm	114	118	130	136	96	134
	Pulse rate	86	78	64	65	74	70
10	Right arm	115	130	138	159	129	116
	Left arm	100	101	132	153	119	131
	Pulse rate	110	98	86	76	90	87
11	Right arm	141	142	149	169	181	112
	Left arm	133	135	140	165	122	151
	Pulse rate	70	69	60	56	59	59
12	Right arm	130	139	146	167	154	110
	Left arm	137	136	145	171	111	158
	Pulse rate	103	97	80	83	78	77
13	Right arm	136	141	154	169	155	89
	Left arm	117	116	141	164	108	137
	Pulse rate	75	69	65	74	67	67
14	Right arm	127	124	146	151	134	92
	Left arm	113	115	133	153	90	137
	Pulse rate	72	60	53	48	53	50
15	Right arm	152	132	165	169	157	123
	Left arm	134	137	156	168	122	153
	Pulse rate	83	83	76	73	77	75
16	Right arm	111	100	126	132	110	73
	Left arm	115	116	129	133	95	134
	Pulse rate	99	92	69	68	67	75
17	Right arm	134	130	154	177	152	105
	Left arm	125	141	161	184	110	157
	Pulse rate	71	70	62	58	59	58
18	Right arm	164	152	170	203	195	135
	Left arm	156	161	178	218	134	198
	Pulse rate	92	84	74	76	77	75
19	Right arm	154	151	180	198	180	127
	Left arm	151	150	169	183	112	180
	Pulse rate	82	83	78	62	71	66
20	Right arm	122	119	142	153	159	111
	Left arm	119	113	127	158	98	155
	Pulse rate	76	75	59	58	63	62
21	Right arm	127	124	159	162	143	96
	Left arm	133	127	133	161	111	157
	Pulse rate	77	72	62	58	63	66
22	Right arm	132	118	16	185	157	106
	Left arm	141	129	159	189	128	165
	Pulse rate	67	65	55	59	61	60

In summarizing the above data, we used the Hall-Quetelet method This method uses the median value, instead of the average or arithmetical mean The data collected from each individual are recorded on a card The cards from the several individuals are grouped as desired We grouped our cards according to the pulse rate and blood pressure in each arm in the different positions of the body For illustration, let us take the blood pressure in the right arm in the standing position, and let us take all those cards showing a blood pressure of 105-110 mm Hg, inclusive, and place them in one group, and all those showing a pressure of 110-115 mm Hg in another group, etc, till we have all the twenty-two cards placed in groups, the difference between the minimal values of which is 5 mm Hg pressure We shall then have the following table

TABLE No 2.

Blood pressure	105+	110+	115+	120+	125+	130+	135+	140+	145+	150+	155+	160+
No of observations	1	2	1	2	3	6	1	1	1	3	0	1

In adding the number of observations shown in the table, we get a total of 22, which corresponds to the number of subjects in whom the pressure was taken

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5 The Journal A M A Dec. 21 1901

The next step is to find the median value, which Dr Hall defines thus "The median value is that value which is so located in the whole series of observations of a single measurement of a single group that there are as many above it as below it, i e, that the number of values which it exceeds is equal to the number of values which exceed it" Since the number of observations is 22, the median value, therefore, will have on one side of it 11 values, which are less, and on the other side 11 values which are greater than itself We must, then, find the eleventh value In counting from left to right, we find that the eleventh value lies in the group 130 mm Hg, and is the second from the minimal value and fourth from the maximal value of this group The median value, therefore lies in this group, which may be called the median group We know, then, that it must be between 130 mm Hg, the minimal value of the group, and 135 mm Hg, the minimal value of the next higher group Now, according to the biologic laws, the six values in this median group will be practically evenly distributed throughout the 5 mm Hg pressure between its minimal value and the minimal of the next higher group Hence the second value from the left must be 130 mm Hg pressure, plus 2/6 of 5 mm Hg pressure, which equals 131 6 mm Hg, the pressure for the right arm in the standing position

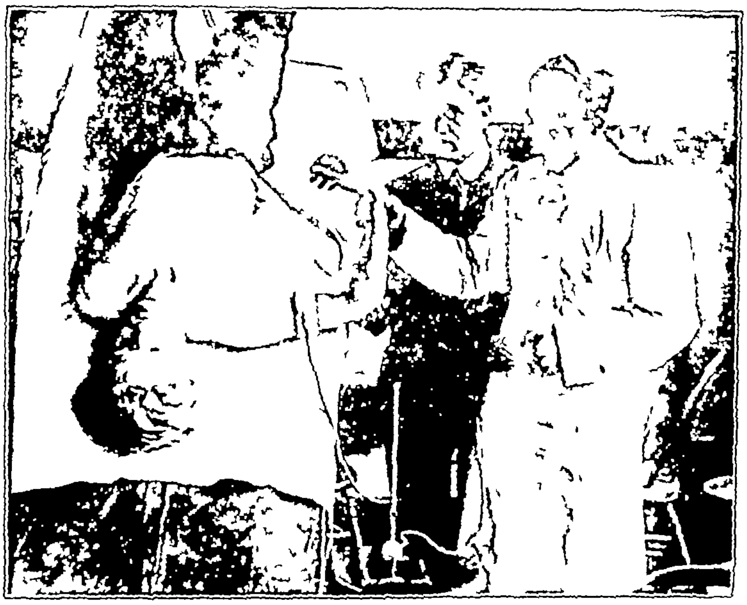

Fig 4 —Head down

Dr Hall has also reduced this process to a mathematical formula thus

Let n equal total number of observations m equal the number of observations in the median group l equal the sum of observations to the left of median group, r equal the sum to the right, a equal the minimum value of the median group, d equal the arithmetrical difference between the minimum values of the groups and M equal the median value to be determined

Then

$$M=a+[d(n-2-l)-m]$$

$$M=a+\frac{d\left(\frac{n}{2}+2-1\right)}{m}$$

$$M=130+\frac{5\left(\frac{22}{2}-9\right)}{6}=131\ 6 \text{ mm Hg pressure by substituting the values of the letters in the above cases}$$

In taking the arithmetical mean, however, we get a pressure of 132 2 mm Hg In observing the table, we see that we have one observation of quite high pressure This slight increase of the average over the median value is doubtless due to this one observation

In a large number of observations the dwarf values are likely to balance the giant values, in which case the arithmetical mean is an accurate though time-consuming method of evaluating data In a small number of observations, however, one extreme is more certain to overbalance the other, and in this case the Hall Quetelet method is the only accurate one It is also accurate in handling large numbers and is much simpler and more easily applied than the old method

Our data pertaining to the pulse rate and blood pressure in both brachial arteries, in the different positions enumerated above, were handled in this manner, the summary of the results of this evaluation being given in the following table

Table No 3

	Standing	Sitting	Supine	Head down	Rt Lat	Lt Lat
Right arm	131 6	133 3	132 5	166 2	155	110
Average	130 8	131 7	125 4	165 6	134 5	133
Left arm	130	130	118 3	165	114	156
Pulse rate	86	82	65 7	65 8	68 1	69 1

DISCUSSION OF EFFECTS ON BLOOD PRESSURE

In scanning this table, it is seen that the average blood pressure in the two arms increases in the standing, sitting, supine and head-down positions, respectively, while the pulse rate decreases It has been considered that the blood pressure varies as the heart rate, times the heart strength times the resistance

Expressed in terms of a formula, we have P varies as Hr × Hs × R, where P equals blood pressure, Hr, the heart rate, Hs the heart strength, and R the resistance

This resistance may be due to arterial causes—arterial resistance, it may be due to the capillaries—capillary resistance, it may be due to contractions of the arterioles—peripheral resistance, it may be due to venous causes—venous resistance, or it may be due to the effect of gravity on the circulation—hydrostatic resistance

Now, it remains to be seen whether the phenomena observed in Table 3 can be explained by means of this formula

Standing Position—We see that the average blood pressure in the standing position is lower and the pulse rate is higher than in any other position in the series Here the current meets with the least arterial and hydrostatic resistance on the arterial side of the circulation, and with the greatest hydrostatic resistance on the venous side Both of these factors tend to decrease the pressure in the upper portions of the body by tending to allow the accumulation of blood in the lower portions of the circulatory system This is partially compensated for, however, by the abdominal muscles and contraction of the arterioles in the splanchnic area[3]

Sitting Position—The average pressure in the sitting position is nearly 1 mm Hg greater than in the standing position, a difference almost so slight in itself as to be ignored But when we observe that the pulse rate in this position has decreased four beats to the minute, more importance attaches to this slight rise *in pressure*, and we begin to wonder why the pressure did not sink with the lowering of the heart rate

According to the formula, P will vary with Hr where Hs and R remain constant Therefore, if Hr decreases, P will decrease also If P does not decrease when Hr decreases, but, on the contrary, remains *constant or* increases, it is evident that the variation of Hr is counterbalanced or more than counterbalanced by the variation of either Hs or R, or both, in an opposite direction Can we account in any way for a sufficient rise in Hs or R, or both, to produce the slight rise of P against the decrease in Hr?

It will be recalled that in the sitting position the thighs were flexed at right angles to the body axis, and the legs at right angles to the thighs, that the body was sustained erect on the pelvis, and the hand of the arm not being operated on was lying relaxed on the thigh of the same side The blood, then, must take a somewhat different course in this position from what it took in the standing position, i e, it must course around two right angles in each leg—one at the inguinal region and one at the knee It also deviates slightly from a straight line at the elbow of the arm not being operated on Thus the blood in two of the largest arteries turns two right angles in each lower extremity, and one large artery turns an angle of approximately 45 degrees at the elbow The same is true of the veins in the same localities This introduces an arterial and venous resistance which did not exist in the standing position

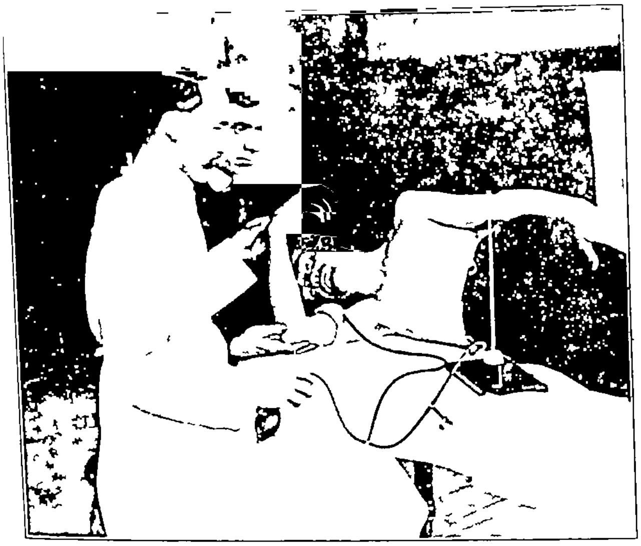

Fig 5 —Right lateral lower arm

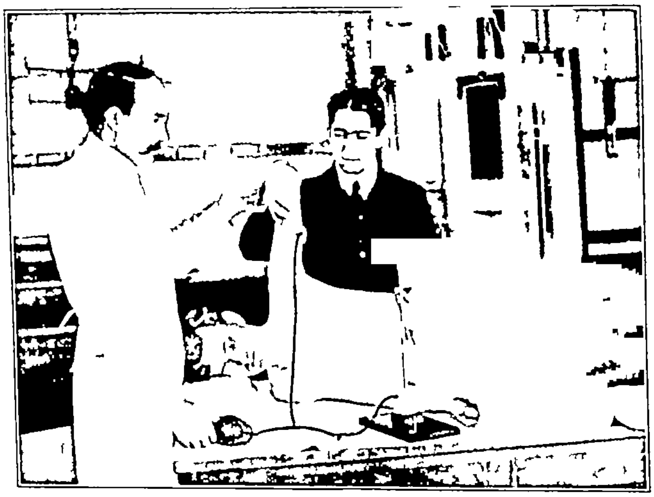

Fig 6 —Right lateral upper arm

It is possible, too, that the capillary resistance may be increased by compression of the gluteal region and upper part of the thigh by the weight of the body on them.

It has been stated that through the influence of the vasodilator nerve fibers the flow of blood to a contracting muscle is increased[6] If this be true, the flow of blood to the muscles of the lower extremities will be increased while the muscles are contracting to maintain the body in a standing position This increased flow of blood to the lower portions of the circulatory system will tend to raise the pressure here and lower it in other portions of the arterial system

The relaxation of these muscles in the sitting position, however, with practically the same tension of the abdominal muscles and the muscles of the back in maintaining the trunk erect on the pelvis, prevents the increase of flow of blood to the lower extremities, which results in higher pressure in the rest of the arterial system, i e, the peripheral or arteriolar resistance is increased in this position

The force of gravity also plays an important rôle In a man 6 feet high the hydrostatic pressure of a column of blood reaching from the vertex to the sole of the foot is equal to 110 mm Hg, and from the vertex to the middle of the abdomen about 50 mm Hg If this statement be true, the hydrostatic pressure in a man 5 feet 8 inches high—the average height of our 22 subjects—will be about 134 mm Hg Now, if the average distance from the bend of the femoral artery in the inguinal region to the bend of popliteal behind the knee be about 40 cm, the hydrostatic pressure in this position will not be 134 mm Hg by 31 5 mm Hg the pressure of a column of 40 cm There will be 10 cm of the column of 170 cm (5 feet 8 inches), on which gravity exerts a pressure downward on only the lower wall of the vessel This column of 40 cm of blood, meeting resistance to its downward tendency, has no effect through its own weight in the column in the leg below it as it had in the standing position, but tends to check the flow of the column above The latter, by its own weight or hydrostatic resistance, and the elastic force of the arteries must sweep this 10 cm of blood through a horizontal distance of 40 cm In overcoming this extra hydrostatic resistance, the column above must necessarily experience a rise in pressure Thus the decrease in the hydrostatic resistance due to the decrease in height of the column of blood, is reacted on by the increased pressure due to the hydrostatic resistance of the 40 cm to be moved in a horizontal plane This is true on both the arterial and venous sides of the circulatory system Whether or not these two factors balance we do not know However, to summarize, we see that we have an increase in the arterial, venous, capillary and peripheral resistances and also the hydrostatic resistance due to the horizontal column of blood We also have a decrease in the hydrostatic resistance due to a decrease in height of the blood column

Now, since we have an increase in P and decrease in Hr, it is evident that the increasing factors of R must more than counterbalance the decreasing factor, since the respiration was kept normal and all nervous stimuli avoided which would tend to increase Hs This increased pressure is shared by the coronary arteries, in consequence of which an increase of nutriment is carried to and increased tension placed on the heart muscle, both of which tend to increase the heart strength[7]

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[6] Stewart Manual of Physiol 1900 p 153

[7] Roy and Adami Philosophical Trans of the Royal Society 1892 vol clxxxiii B pp 90 262

It is clear, then, that the total increase in P is not due alone to the increased resistance, but is brought about partially by the increase in the heart strength This increase of the heart strength, however, results from the increased pressure due to the increased resistance Just what proportion of the total increase in P is due to the increase in R, and what proportion is due to the increase in Hs, we do not know We conclude, therefore, that the increased blood pressure in the brachials in the sitting position over that in the standing position is due to an increase in both the resistance and the heart strength

Supine—In referring to Table 3, the median pressure in the supine position is seen to be 150 1 mm Hg, a distinct rise over that in the two previous positions We see also, that the pulse rate has decreased to 68 7 beats per minute a distinct decrease below that in the two previous positions Therefore, since P is higher and Hr lower than in the two other positions, it is clear that Hs or R, or both, have made a greater increase

Hill of London has shown that, when the body of one of the lower animals takes the vertical feet-down position, the blood pressure falls in the carotids and at the same time rises in the femorals When the body resumes the horizontal position the pressure increases in the carotids and decreases in the femorals, as compared with what it was at first When the animal is placed in the vertical feet-up position, the pressure still further rises in the carotids and falls in the femorals These phenomena he attributed to the hydrostatic pressure of the blood Again, if the phrenic nerves be divided when the animal is in the vertical feet-down position, the pressure will still further fall in the carotids and rise in the femorals Furthermore if a crucial incision be made in the abdominal walls the pressure falls still further in the carotids and rises in the femorals These phenomena he attests point to a compensatory apparatus in the splanchnic area and the abdominal walls, since compression of the latter will cause the pressure to rise in the carotids and fall in the femorals This compensatory apparatus he thinks becomes more nearly complete in animals that assume more nearly the vertical position as their natural posture, therefore, more nearly complete in man [3]

The clinical experience of Piorry, cited above, and of many others also shows the effect of gravity on the circulation in the supine position When the subject is placed on his back the blood which previously tended to gravitate to a plane below the heart, especially into the spacious venous system of the splanchnic area, now tends to become more equally distributed throughout the circulatory system, since this system has taken a horizontal position This tends to increase the hydrostatic resistance in the plane of the heart and above it, through an increased flow of blood to these regions and to lower it in the planes below through a correspondingly decreased flow to those regions

At the same time, the hydrostatic resistance is further increased by the blood in the arterial system having to be moved along a horizontal plane at right angles to the force of gravity

It is decreased, however, in the lower portions of the venous system by a force equivalent to the difference between that required to raise the return circulation to the level of the heart, and that required to move it through a horizontal plane throughout the venous system It is increased, however, in the upper portions of this system through the general tendency of the blood to become equally distributed throughout the circulatory system

The increased hydrostatic resistance in the circulatory system tends to strengthen the heart beat by increasing the nutriment to and the tension on the heart muscle This increased force of the heart "may more than counterbalance the increase in the resistance to the contractions of the left ventricle which that rise introduces, so that the ventricle may contract more completely than it did before the pressure was raised"[8]

It may be possible that the capillary resistance is slightly increased in this position by the weight of the body on the tissues of the back, this is evidently small, as the body rests largely on bony prominences, such as the sacrum shoulder blades, etc, leaving the large muscular areas of the back practically free from pressure

We see, then, that there is an increase in the hydrostatic resistance in the arterial system and upper portions of the venous system, that because of this increase of hydrostatic resistance the heart's action is strengthened that there is a possible slight increase in the capillary resistance, that there is a decrease in hydrostatic resistance in the lower portions of the venous system

Now, since P has increased, we are forced to conclude that the increase in Hs and R more than counterbalances the decrease in R in the lower venous system Furthermore, that the ultimate factor in bringing about the increase in P in this position is the hydrostatic resistance

Head-Down Position—Referring again to Table 3, it is observed that the blood pressure in the head-down position has made a leap of over 15 mm Hg above what it was in the supine, being now 165 6 mm Hg It will also be noticed that the heart rate has been lowered almost three beats per minute, the rate now being 65 8 Now since the pressure is the greatest and the heart rate is the lowest in this position, it is evident that the heart strength or the resistance, or both have experienced the greatest increase

Since the man is on an inclined plane with the head downward, it is clear that the blood will tend to course toward the head through the influence of gravity This produces an increased hydrostatic resistance in the upper portions of the circulatory system, which is greater than it was in the supine since gravity acts on an angle of 45 degrees with the course of the blood, instead of 90 degrees It is also greater than in the standing and sitting postures, since in the latter gravity acts in a straight line with the blood stream and tends to pull it to the opposite extreme of the circulatory system

The hydrostatic resistance in this position is equivalent to that of a column of blood extending perpendicularly between the plane of the feet and that of the brachial artery a distance of about 99 cm, with a pressure of about 78 mm Hg

According to Hill [3] the increased hydrostatic pressure in the carotids in the vertical head-down position is partially compensated for by a decrease in the resistance in the splanchnic area, brought about through the vasodilator mechanism but this compensation is far from complete

The same may be said in regard to the capillary resistance here as was said in case of the supine if there be an increase it must be slight

The hydrostatic pressure, being greater in the upper portion of the circulatory system than it was in the pre vious postures, will necessarily be shared to a greater extent by the coronary arteries, in consequence of which there will be a greater increase of nutriment to the heart muscle The tension on the heart will also be greater We conclude, therefore, that the strength of the heart is greatest in this position

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[8] Roy and Adami Philosophical Trans of the Royal Society, 1892 vol clxxxiii B p 269

Lateral Positions—In Table 3 it will be seen that the pressure in the right lateral position is 134 5 mm Hg, and the pulse rate is 68 1 beats per minute in the left lateral the pressure is 133 mm Hg, and the pulse rate 69 1 per minute Here the same general law holds good—that the pulse rate decreases as the pressure increases But we notice that the pulse rate approximates that in the head-down position, while the blood pressure approaches that in the standing and sitting postures, i e, the pressure is lower compared with the pulse rate than in the other lying positions

Now since the pulse rate is much lower and the blood pressure slightly higher in these positions than in the standing and sitting positions it is manifest that both the heart strength and resistance, or either one of them must be increased to a greater extent than in the latter For convenience we shall take the average pressure and pulse rate in these positions in comparing them with the others, and later take the two separately in comparing them with each other The following table will then be useful

Table No 4 —Lateral Positions

	Right Arm	Left Arm	Average	Lower Arm	Upper Arm
Blood Pressure	134 5	133	133 8	155 5	112
Pulse Rate	68 1	69 1	68 6		

This table shows the average blood pressure in these positions to be 133 8 mm Hg and the average pulse rate 68 6 beats per minute By comparing these figures with those in Table 3 we see the pulse rate is nearly the same as in the supine and but slightly higher than in the head-down positions, while the pressure is much lower That means that the heart strength, the resistance or both, have decreased

How can we account for these phenomena? In the first place, how can we account for the slight increase in the pressure over the great fall in the heart rate from what it was in the standing and sitting positions? In the latter a comparatively small amount of blood was moved along a horizontal plane by the heart force, thus overcoming the hydrostatic resistance due to gravity acting at right angles to the blood current, while in the lateral positions the blood moves nearly horizontally through the entire circulatory system

Here also, the blood tends to become more equally distributed throughout the circulatory system This results in a lowered hydrostatic resistance in the lower portions of the body with a corresponding increase in the upper portions

In this position it will be recalled that the lower arm was extended anteriorly at right angles to the body axis Instead of the blood passing from the subclavian artery through the brachial in a straight line to the elbow it deviates 90° from this course and passes directly forward This offers a greater resistance to the blood current above, and at the same time tends to lessen the pressure in the radial below it We conclude therefore that because of this variation the systemic pressure is somewhat higher than is recorded in the above table This is a greater arterial resistance than we had in the standing and less than in the sitting positions In the upper arm the forearm was horizontal instead of perpendicular, as it was in the other positions, while the brachium was perpendicular instead of horizontal Hence these two differences balance Because of the increased resistance the heart force is also increased in the same manner as has been given above

We see, then, that the hydrostatic resistance is greater in the planes of the heart and above it, in these positions, than in the standing and sitting positions, that the arterial resistance is slightly greater than in the standing, but less than in the sitting position, that the heart strength is increased because of the increased resistance Now, since P is slightly higher and Hr much lower, Hs and R, one or both, must be much increased

Now, why is the pressure lower than, and the heart rate nearly the same as, it was in the supine? In the latter the circulatory system lies practically in a horizontal plane In the lateral positions it is "on edge," as it were, and beside the upper portion is slightly higher than the lower, since the distance from the central axis of the body to the point of the shoulder is somewhat greater than it is from the same axis to the most distant point of the crest of the ilium or great trochanter This gives a slightly inclined plane down which the blood tends to gravitate toward the feet, thus raising the pressure below the heart and lessening it above, as compared with what it would be in the supine position The resistance, therefore being less, the heart strength will be less because of lessened nutrition to, and tension on, the heart muscle The decrease in P, then, must be due to a decrease in Hs and R

The same things are true in the head-down position as in the supine, but in a more marked degree Here, however, Hs has decreased to a greater degree, hence, we conclude that P has decreased as a result of the decrease in Hr, Hs and R

Now, Table 4 shows that the average pressure is 1 5 mm Hg greater and the pulse rate a half beat less in the right than in the left lateral position How may this slight rise or pressure be explained?

The aorta passes from the left ventricle upward and slightly forward and to the right It then curves backward, upward and to the left Therefore in the right lateral position the heart lifts the greater portion of blood against the force of gravity to the perpendicular distance between the planes of the mouth of the ascending and the beginning of the descending aorta, respectively It also turns this blood through a semicircle in its course through the arch In the left lateral this resistance is absent The force of gravity alone would be sufficient to take the blood around the arch of the aorta after it reaches the top of the ascending portion This increased resistance in the right lateral in turn produces a greater heart strength It is clear, then, that the increase in P is due to an increase in Hs and R

DISCUSSION OF EFFECTS ON PULSE RATE

‘The mere fact that the centripetal fibers which call the vagus into play by reflex action come chiefly from the heart itself, shows that one part, and a very important part, of the vagus function is to reduce the work done by the heart in the interest of the heart itself We conclude, then, that the vagus acts as a protecting nerve to the heart, reducing the work thrown on that organ when, from fatigue or other causes, such relief is required by it The fact, however, that there exists centripetal fibers which call the vagus center into activity in such nerves as the sciatic and splanchnic, shows that the vagus mechanism may be called on to act in the interests of other parts of the body whose circulation requires to be diminished We conclude, therefore, that the vagus may be used by other parts of the body to diminish the blood pressure and the output of the heart, and thereby reduce the circulation

'Among the organs whose protection against over-congestion is of the greatest importance, it need hardly be said that the central nervous system takes the foremost place It is well known that if the intracranial pressure be raised artificially powerful excitation of the vagus center is produced Vagus action also results from rise in the blood pressure in the systemic arteries, and the excitation thus produced can be shown to be due to the high pressure within the vessels of the central nervous system and not to any direct effect of the rise of pressure on the heart We must, therefore, look on the vagus mechanism as a means by which the central nervous system gains protection against too great congestion

"The dependence on the blood pressure of the degree of vagus action, and the readiness with which the vagus center in the medulla is called into play by a rise of the intracranial pressure, seem to us to indicate that the mechanism in question is especially employed in the interests of the central nervous system as well as the heart itself"[7]

Now, if it be true that the vagus acts as a protecting nerve both to the heart itself and the central nervous system, it is clear that the reduced heart rate in the various positions of the body in the order named is in response to the action of the vagus in endeavoring to protect the heart and central nervous system against the increasing pressure

SUMMARY

1 The blood pressure increases in the brachials from the standing to the head-down positions, inclusively, in the following order Standing, sitting, left lateral, right lateral, supine and head-down

2 The greater the hydrostatic resistance in the upper portions of the circulatory system the greater the increase in pressure where the nervous and respiratory systems are kept normal

3 An increase of resistance is accompanied by an increase in heart strength, the strength of the heart, therefore, will increase in the different positions in the following order Standing, sitting, left lateral, right lateral, supine and head-down

4 The pulse rate decreases in the same order that the blood pressure increases

5 The decrease in the pulse rate is a conservative act on the part of nature to protect the heart itself and the central nervous system

DISCUSSION

Dr. H G Brainerd, Los Angeles, Cal —Are these data altogether from pressure in the arm, or are they taken in any other way? Can they be taken in the temporal region or elsewhere? The Riva Rocci apparatus, as I have it, is not adapted to use in the temporal region I have been very anxious to find what the temporal blood pressure is and how it compares with the pressure in the arms Would it not be necessary to use an air pad?

Dr Winfield S Hall, Chicago—The Riva Rocci apparatus, as it is furnished to us by the medical instrument houses, is not adapted to taking any measurements except those on the arms or legs A very easy adaptation can be made for taking the pressure in the temporal artery One has only to put a band around the head, insert an inflatable bulb between the band and the temporal artery, and inflate the bulb sufficiently to cut off the temporal pulse Having thus a method of determining the pressure in the temporal artery, we could, at the same time, take the pressure in the brachial artery, and also perhaps that in the popliteal artery With these three observations taken simultaneously one could compare not only the three different pressures, but could also get an idea of the average arterial pressure

TREATMENT OF FRACTURES OF THE PATELLA BY LATERAL SUTURES *

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NEW YORK

The question as to the operative versus the mechanical treatment of fracture of the patella has been ably discussed in a number of papers in the last few years Some of these have been read before this Association

I do not intend to reopen this discussion, inasmuch as my contribution deals only with a detail in the technic of the open operation, yet it is only fair that, in order that I may not be misunderstood, I should state my position in the matter, the more so, since the principle of my technic is closely linked with the reasons for my views in regard to the treatment in general

Fractures of the patella are divisible into two classes —those caused by direct and those caused by indirect violence Or, as von Mikulicz[1] has very aptly put it, "blow" and "tear" fractures To this classification he also added another which was the result of both, or a "combination" fracture

The difference between the "blow" and the "tear" fracture is well known to all, yet the importance of its bearing on the question of treatment seems to be generally overlooked In the fracture by direct violence, usually the bone alone suffers, and although it may be comminuted, there is little separation of the fragments In the "tear" fracture, on the other hand, not only the bone but the lateral expansions of the quadriceps muscle on either side of the patella are likewise torn, and there is considerable separation of the fragments In the "combination" fracture the injury to the soft parts is similar

Great stress has been laid on the interposition of fibrous frills from the torn aponeurotic structures covering the patella by the advocates of the open operation This interposition does not occur in the "blow" fractures, because these structures are not frilled

The fractures by direct violence or blow fractures, then, do not offer indications for open operation, except for the reduction of otherwise irreducible displacements of the fragments, and in practice their treatment by mechanical methods will be found to yield excellent results On the other hand, the treatment of the "tear" fractures by mechanical means is extremely unsatisfactory These cases, unless contraindications exist, by reason of age or disease, should in my mind be operated on, particularly those to which a sound limb is a necessity

The indications for operation consist, then, not in the extent of injury to the patella itself, but to the lateral extensions of the insertion of the quadriceps extensor muscle The importance of these structures has been emphasized by von Mikulicz,[1] who termed them the "para patella ligaments" I have been accustomed to call them the lateral patella ligaments and for convenience shall adhere to that term They are strong aponeurotic structures which are directly connected with the tendon above and with the ligamentum patellæ below, and, in fact, extend its insertion laterally to the tuberosities of the tibia On their deep surfaces they are intimately blended with the capsule of the joint

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* Read at the Fifty fifth Annual Session of the American Medical Association in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee Drs DeForest Willard Charles A Powers and J E Moore

[1] J von Mikulicz British Med Jour, Dec 13, 1902 p 1828

In direct fractures of the patella, the lateral patella ligaments remaining intact, considerable power of extension is present, although the patient may not exercise it on account of pain In such cases when voluntary trials at extension are made or when the knee is passively flexed little separation of the fragments will result The function of the ligaments is so important that when these structures are torn as in the "tear" fractures, no operation based on the suture of the patella alone is correct The lateral patella ligaments should be sutured as well In fact, I have gone so far as to rely on suture of the lateral patella ligaments alone in the treatment of "tear" fractures, only employing enough other sutures of fine catgut to coapt the remaining fibrous tissues

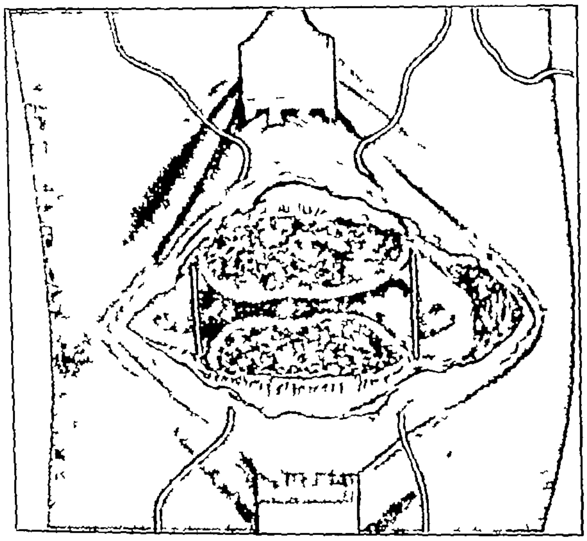

Fig 1—Showing the method of introducing the sutures close to the sides of the fragments and in front of the synovia

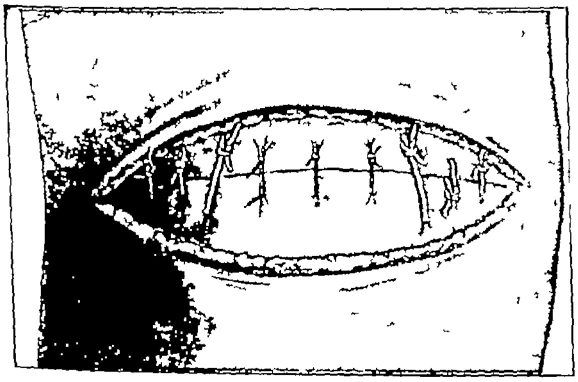

Fig 2—Main sutures tied with others to repair the extensions of the tears in the lateral patella ligaments and coapt the tissues in front of the patella

OPERATION

The steps of the operation are as follows A curved transverse incision, one centimeter below the line of fracture and long enough to sufficiently expose the tears in the lateral patella ligaments, is made The fringes of the aponeurotic tissues, which are usually found closely applied to the surfaces of the fracture are separated and trimmed off with scissors, and the blood clots washed out of the joint with a stream of sterile salt solution All these manipulations are performed with instruments, not even the gloved fingers touch the tissues Irritation of the synovia by sponging is abstained from

A suture of strong chromicized catgut, No 4 preferably, or kangaroo tendon is then introduced in the lateral patella ligament on each side of the patella in the following manner A strong, full-curved Hagedorn needle is inserted one centimeter from the line of fracture and as close to one of the fragments as is possible and brought out in the line of the tear just in front of the synovia, again introduced at a similar point at the margin of the opposite torn surface and hugging the other fragment it emerges one centimeter from the line of fracture on the anterior aspect of the lateral ligament (Fig 1) The sutures are introduced on both sides of the patella before tying It is very important that the sutures should be introduced as closely as possible to the fragments The sutures are now tightened and tied simultaneously, and the coaptation of fragments will be found to be so exact (Fig 2) that the slightest movement on one another in any direction is absolutely impossible on account of the interlocking of the slight irregularities of the surfaces

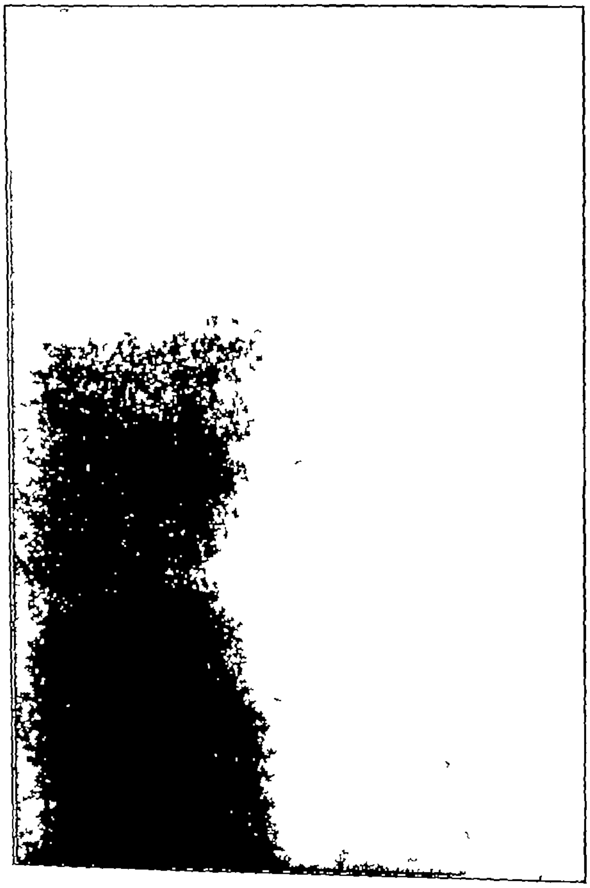

Fig 3—E W female age 35 years. Refracture of right patella X ray four weeks after second operation.

The coaptation will be good even if the fragments are comminuted, provided the sutures grasp the tissues beyond the fragments

The reason for the accurate coaptation lies in the fact that the stress of the sutures is exerted at right angles to the centers of the surfaces of the fracture, a feature which is not accomplished by any other method of suture with the exception of the purse string

One or two additional chromicized sutures of somewhat smaller size are used to repair the extensions of the rents in the lateral ligaments, and the aponeurotic tissues in front of the patella are united with a few fine catgut stitches, the point being not to introduce any more sutures that are not readily absorbable than are absolutely necessary (Fig 2)

The cutaneous wound is closed with silkworm gut without drainage

The whole procedure should not occupy more than fifteen minutes

The advantages of the method are its simplicity and ease, the avoidance of prolonged manipulation and traumatism, which is unavoidable when the fragments are bored for sutures the exertion of the lines of the restraining force in the most efficient direction the absolute coaptation, use of absorbable sutures and its rapidity

In regard to the last point, I think that it is generally conceded that with the present perfection of aseptic technic as regards instruments and gloves, infection occurs almost in direct proportion to the length of the operation and the consequent traumatism of the tissues

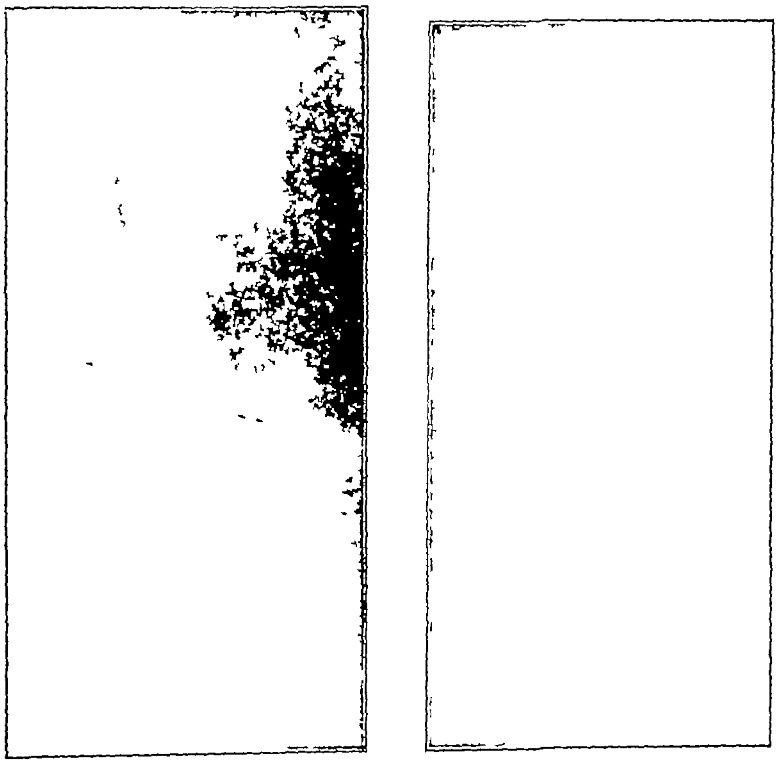
(Left knee) (Right knee)

Fig 4 —F B male age 19 Fracture left patella junction lower one third and upper two-thirds Tear later ligaments ¾ inch on each side X ray 2½ years after operation Union and function perfect

The after-treatment is the usual one A molded plaster splint is put on which is removed daily for massage after the fifteenth to the twentieth day

In regard to the time for operation I consider it is well to operate as soon as is convenient after the injury I do not wait for the effusion to subside In fact, I think it a distinct disadvantage to delay opera- over four or five days since after that time the tis- begin to heal in abnormal relationship and the ulty in properly coapting them is thereby increased by then the fibrous fringes become attached to the faces of the fracture and fresh hemorrhage is pro- oked in separating them

RESULTS

used this method exclusively for three years, ing that time have sutured by it twenty-two of the patella two of them being refractures ese cases two have been done so recently that the result as regards bony union is still undetermined In the remaining twenty, bony union was obtained There have been no infections, the wounds healing in all *per primam*

In regard to the restoration of function Some have passed from observation before the motions of the knee were absolutely free, but in all the cases that I have been able to trace, three months after operation the motions of the knee have been perfect, with one exception to be mentioned later In the earlier cases I was not so particular in instituting early massage, and some of these cases were left in splints for six weeks, consequently, the motions of the joint were limited for longer periods than would otherwise have been the case

Two patients refractured their patellæ One of these was a laborer, 39 years of age The original fracture was by indirect violence, and was accompanied by considerable separation and tearing of the lateral patella ligaments The fracture was a clean transverse break Two months after the operation while walking, he slipped on some ice and refractured it He immediately reapplied for operation At the operation the surfaces of the break were found to be as rough and sharp and bleeding as freely as when first fractured, and there was not the slightest evidence of fibrous union Furthermore there had been a considerable formation of new bone on the sides of the patella at the ends of the original line of fracture Union had been bony, but the time elapsed (two months) since the first fracture had probably not been sufficient for the new bone to become as dense as it would have later The second operation resulted in good union, but there was a great deal of thickening of the soft tissues and considerable stiffness remaining when the patient passed from observation some three months afterward

The other case was a negress, 35 years of age The original fracture was a transverse one with tilting of the lower fragment, so that its fractured surface was directed forward There was considerable separation The result of the first operation was perfect as regards union and function Seven months later she fell and refractured it At the operation I was at first unable to determine whether the fracture was at the site of the original one or not, the surfaces were so sharp and rough Finally, I noticed that the fractured margin of the articular cartilage was somewhat rounded, showing that the line of the second fracture coincided with that of the first The result of the second operation was excellent Figure 3 is from a radiograph taken thirty-five days after operation

In these cases there was no evidence at the second operation of there having been any int e with the circulation in the fragments as a re mal procedure In fact in one of them able proliferation of new bone at th tella at the points where the gre sutures was exerted In some c there was comminution of the fra a marked production of new bo of repair, thus adding consider patella This is evident in th graph (Fig 4)

In the preparation of this pa radiographs of as many of the though I heard from many of th six to come for radiographs Tn were taken and the comparison teresting, particularly in regar the bone as a result of commi

DISCUSSION

Dr John H Gibbons, Philadelphia—The improved technic added to our knowledge of the pathology of fractures of the patella have gradually increased the indications for operation on this condition One supposed contraindication to operation is age, but the excellent result I recently obtained in a man over 60, operated on ten weeks after fracture, convinces me that age alone is no longer a contraindication I showed this case at the Academy of Surgery recently and demonstrated a perfect restoration of function There is one contraindication to which we should always give consideration, and that is alcoholism Delirium tremens is a common and serious complication in fractures The incision is an important point The old straight incision should be relegated to the past and Dr Blake's curved incision extending just below the line of fracture is much to be preferred to the straight one With the straight incision you can not satisfactorily perform the operation as it is impossible to get at the lateral ligaments I use a horseshoe shaped incision for all operations on the patella and its bursæ The question of sutures should be referred to and I do not believe that wire is required for the satisfactory union of this fracture I agree with Dr Blake that the absorbable suture is the better We will get practically as good results by suturing only the tendon as by suturing the bone The avoidance of rough handling of the tissue is important as traumatism of this character is more apt to result in infection than probably any other one thing Early massage is an essential in the after treatment. We are apt to keep the limb quiet too long We can make the mistake, however, of giving massage and movements too early, as I did in one of my cases The man was out of bed at the end of two weeks The result was only some swelling and ultimately the limb was just as useful as in other cases I want to lay stress on the fact that massage is an essential part of the after treatment

Dr G T Vaughan, Washington, D C—The incision depends on the case For recent cases I believe the horseshoe or transverse incision is better, but in old cases, with a good deal of separation of the fragments, the longitudinal incision is better The transverse incision can be reinforced if necessary, but a long longitudinal incision is the better This method of uniting the lateral ligaments has been usually done in fractures of the patella. I always unite the lateral ligaments when they are lacerated I have seen cases where there was very little laceration of the ligaments, as in fractures from direct violence As to the suture, at first I thought it was almost inexcusable to put silver wire into the knee cap, but I have had good results follow the use both of kangaroo tendon and catgut I have also seen some bad results, but they were not my cases Sometimes the animal suture gives way too early, and recently I have been using silver wire on this account To get patients up early the fragments should be fastened together with silver wire, though, as a surgical principle and as a rule I do not approve of the non absorbable suture The old cases sometimes give trouble when there is a great deal of separation I would like to know the best way to get the fragments together I have used two methods, one of which was to split the tendon of the quadriceps down, cutting across on opposite sides above and below, and the other was to make an oblique cut across it and slide it down. Both of these have been followed by good results, and I have had no particular weakening of the quadriceps extensor I have had 19 cases altogether of operation for fracture of the patella In one of the earliest I used the old Barker method and got a fibrous union Bony union resulted in all the other cases I had one patient with a refracture of the patella, the fracture occurring at a different site, one third of an inch above the original fracture

Dr C O Thienhaus, Milwaukee—In April of this year I operated on a man who fractured his patella two years ago in South Africa After having been confined in the hospital at Rhodesia and having been treated by conservative non operative methods for nine weeks, he left the hospital with an apparatus without union When I saw him the distance of the fragments was about 15 cm, his leg almost useless, the condition having grown worse within the last year, and he was unable to extend his leg when it was flexed The difficulty of getting the fragments together in such cases is very often enormous and different methods of lengthening the rectus femoris muscle have been proposed Some years ago von Bergmann advised chiseling off the tuberosity of the tibia with a wide chisel Thereby the inferior fragment is made movable and later heals higher up In many cases this method alone has proven sufficient to get the fragments together, but this was not possible in my case I, therefore, combined this method with one of the methods of lengthening the rectus femoris, that is, by a Z shaped incision through the muscle After this I succeeded in getting the fragments together and wired them with three silver wires, one of which was removed four weeks after operation The result has been satisfactory, bony union was obtained He walked without the aid of a cane eight weeks after the operation There is still some stiffness in the joint which must naturally be overcome by bending the knee gradually to avoid a refracture

Dr J F Binnie, Kansas City, Mo—I do not think bony union is of very much importance Thoroughly good fibrous union between the fragments seems to give every bit as good functional results as is possible I have never yet wired the patella simply because by following a method similar to Dr Blake's and getting free exposure of the lateral ligament, I have gotten just as good results There is no use bothering with wire I would strongly advise 1 early operation before there has been time for marked changes to take place in the tissue, and 2, thorough operation and suturing of the lateral ligament I use catgut, either plain or very mildly chromicized I very much dislike strongly chromicized catgut

Dr D N Eisendrath, Chicago—I was obliged to resort to a similar method to that described by Dr Blake about one year ago in a case of fracture of the patella The operation was performed twenty four hours after the injury, and my original intention was to drill the upper and lower fragments respectively, and unite them by means of a kangaroo tendon Unfortunately, just at the moment when most needed, the drill failed to act, and I was obliged to utilize simply the periosteum covering the anterior surface of the patella in order to get a basis of support for my sutures I used one kangaroo tendon over the center of the patella, inserted in a mattress fashion, and was very careful to turn outward the edges of the periosteum at the line of fracture believing that this turning in of the periosteum, thus separating the bony edges will often prevent good union I fully indorse the point made by Dr Blake as to the necessity of inserting sutures through the aponeurosis of the quadriceps lateral to the break in the patella, because the fracture of the patella is almost invariably accompanied by a more or less severe laceration of the aponeurosis I agree that fractures of the patella should not be operated on unless the most aseptic conditions prevail The early use of massage to overcome the atrophy of the quadriceps is of the greatest importance

Dr J B Bullitt, Louisville, Ky—The phase of the subject presented by Dr Blake has not had the wide recognition that it deserves, and it seems to me that we should change the nomenclature Instead of sticking to "fracture of the patella" we should say "rupture of the lateral ligaments" of the patella The attention of the surgeon has always been directed rather to the broken bone than to the ruptured ligaments We should keep our attention confined to the latter Dr Binnie says that he does not give any attention to the fracture of the patella, and he is about right. It has been demonstrated that the patella is not essential and that a perfectly strong joint can [illegible] had without it. The separation of the fragments with non union and the resulting disability has ofttimes led to the impression that it was the non union which led to the disability, whereas it was simply the lengthening that caused the trouble I am glad to report that success in this operation has no geographical limitations south of Mason and Dixon's line just as north of it. I have operated on three patellæ in two cases and have obtained quite satisfactory results As to the time elapsing before operation, Dr Blake says that four or ally exist in combination with other materials, is it not likely, in certain conditions in which the secretions are hypoacid, that when the secretion comes to the surface of the mucous membrane, owing to its chemic combination with oxygen, there is liberated NH_3, the irritating ammonia gas? Surely the symptoms, identical with those produced by ammonia gas, in many cases justify this conclusion, and the chemic study of the secretions supports this view

Many cases of hay fever illustrate this point, although in hay fever the nasal secretions may be either hypoacid, hyperacid or neutral, or irregular

ETIOLOGY

The numerous theories as to the etiologic factor in this disease prove conclusively that as yet there has not been established a definite cause It may be that different conditions act as etiologic factors, in fact, it is *my* belief that not all cases which we call hay fever, or hyperesthetic rhinitis, are due to any one cause, or, if to any one factor, that factor must be the altered chemistry of the secretions of the individual In fact, I am persuaded, after making a series of examinations of the saliva in certain individuals afflicted with hay fever and those not so afflicted, that in some cases the causes, direct or indirect, of local irritation in the nasal mucous membrane are brought about by chemic change in the constituents of the secretions of the mucus-secreting glands Treatment based on this view is certainly most effective Sensitive areas within the nasal cavities, or irregularities in formation of the cavities themselves, are factors in some cases, yet such areas or irregularities, instead of being etiologic, are merely auxiliary factors, which render the individual more susceptible to the irritant from within

It is a well-known fact that in many cases of hay fever the irritation is not limited to the nasal mucous membrane, the conjunctival, buccal, pharyngeal and laryngeal mucous membrane, and even that of the stomach and bladder, may be markedly involved This could scarcely be explained on the basis of a reflex neurosis In such cases the mucous membrane suddenly becomes engorged, and is exceedingly sensitive, with profuse, watery, irritating discharge This comes on suddenly, often without any apparent external irritant, and at times looks very much as though there was an effort on the part of the mucous membrane to rid the system of material which had just reached a certain point of accumulation.

The question may be asked Why does hay fever come on at certain times of the year? That climatic and atmospheric conditions produce changes in function and secretion, that certain diseases are prevalent at certain times of the year, and that under certain climatic and atmospheric changes individuals are more susceptible to disease, has long been observed This may be due to some condition of the individual which renders him susceptible to disease, owing to lowered cell resistance and altered chemistry, since temperature and climatic changes do affect the chemistry of the secretions As to the effect of pollen in certain cases, is it not possible that, owing to some peculiar constituent of the secretion of the mucous gland, there is deposited in or on the nasal mucous membrane certain materials which when brought in contact with certain extraneous materials as pollen, through some chemic action produces a material which brings about the irritation and causes an attack of what is known as hay fever, or that the extraneous material merely acts as a stimulant to the mucous glands and causes a flow of mucus, which, owing to its altered chemistry, acts as an irritant?

This is exemplified in the cases in which the ammonium salts bring on an attack identical with that produced by the rag-weed pollen If the administration of the tincture of rag-weed produced immunization to hay fever, it must do it through the secretory function, and the chemistry of the secretions *would* be such as to contain no materials which, when coming in contact with the pollen of the plant, would produce any irritating substance I have seen cases illustrating this point

There is no question that the irritation is caused by some product of chemic action The question involves organic chemistry, and any one familiar with the wo , recognizes the time and labor necessary to work out such chemic formulæ I have, however, done sufficient laboratory work in the past eight years to convince me that on this basis we can relieve many cases of hay fever That the chemistry of the secretions has *to do* with the causal factor I have illustrated in a number of cases by rapidly changing the reaction of the secretion either from acid to alkaline or from alkaline to acid, or rendering it neutral, and in many instances I have been able, either partially or wholly, to cure the attack

Certain individuals will have, at any time in the year an attack which is quite similar to hay fever The individual may be sitting comfortably at home, subject to no draughts or exposure whatever, when he is suddenly seized with congestion of the nostril, followed rapidly by the thin watery discharge of a decidedly irritating nature, free lacrimation, with burning and itching in the nasal cavities, eyes and nasopharynx Frequently associated with this is a slightly asthmatic tendency It can not be cold, it is something in the nasal secretion and when the secretion comes to the surface and in contact with the air there is liberated some material (chemic) which acts as an irritant to the vasomotor system (peripheral terminal nerve filaments) and causes sudden congestion Such attacks are quite like inhaling ammonia fumes, and in such cases there is present an excess of ammonium salts in the saliva Owing to some chemic change in the secretions of the individual there is accumulated material within the system which in the point of accumulation reaches that period in which it overflows, and the secreting glands liberate on the surface this material, which when exposed to the air undergoes a chemic change In many instances, on examination of the saliva and the nasal secretions there has been found an excess of the sulphocyanids and the ammonium salts When this secretion is exposed to the air, free ammonia is liberated which I believe to be in many cases the cause of the attack The symptoms produced are identical with those of the inhalation of ammonia fumes When the secretion is exceedingly alkaline the patient will often have symptoms identical with those of articular rheumatism

CASES IN WHICH THE SECRETIONS ARE HYPERACID

The following case is an illustration

Mr C, aged 42, consulted me in regard to what he supposed to be a catarrhal condition, associated with ozena His breath was most offensive, but, although pronouncedly so it was not the penetrating, clinging odor observed in atrophic rhinitis with ozena He had observed the condition rather suddenly and it had existed continuously for some four or five years His history was absolutely negative as to any catarrhal condition other than an occasional cold He had consulted specialists both in this country and abroad, not only as to the possibility of the odor coming from the nose or some of the accessory cavities, but had also consulted specialists on dieases of the stomach, as well as having had a thorough inspection of all his teeth. He had been told that he had practically no catarrh, and, as his digestion was good and nothing found wrong by analysis of the contents of the stomach, it was quite puzzling as to the source of this odor. After a thorough examination, and knowing that the men under whose care he had been were most thorough and competent in their line, I reasoned that there must be some source of the disagreeable odor outside of the parts already mentioned. As this was in the winter of 1895, and as my attention had been called to the importance of the secretions by other conditions, as well as a statement made to me by the patient, I decided to investigate the saliva. The statement which he made to me, which was most significant, was this: "That, while his appetite was very good, and when his olfactory nerve was stimulated by the odor of a delicious meal, causing his mouth to water, the disagreeable odor and taste became so pronounced as to almost nauseate him." I then collected some of the saliva. The method used for its collection I learned from my experience in a dentist's chair, that while sitting with your mouth wide open for a few minutes you have a most profuse flow of saliva. This method practiced just before meal time, enabled the collection of quite a large amount of the secretion. The offensiveness of the secretion was at once detected.

CHEMISTRY OF THE SULPHOCYANIDS

In order to explain the chemic source of the offensive odor it is necessary to take up the chemistry of the sulphocyanids. As to the sulphocyanids which are present in the saliva, it is a chemic fact that most of the cyanids are actively poisonous and that a cyanid is formed, or is a compound, of cyanogen with a metal or radical. A sulphocyanid is a salt in which sulphur takes the place of oxygen in the acid radical. Cyanogen is a radical molecule having the structure CN, an acid compound of carbon and nitrogen. A radical is a group of atoms having unsatisfied valency, an unsatisfied molecule which goes into or out of combination without change to itself and which determines the character of compounds. A sulphocyanid is a combination, then, denoting the chemic combination of sulphur with a radical. When a sulphocyanid is eliminated the secretion in which the ammonium salts are in excess is alkaline, but when it comes in contact with the air, owing to the chemic change which takes place, it becomes an acid radical. Hence in many instances in which from our test we believe the secretion to be acid, it is really hypoacid (alkaline). This is most important, and in many instances in which from the test reaction we are led to conclude the reaction to be acid, it is in reality in the system an alkaline reaction and only becomes acid when, owing to chemic action due to exposure to air, certain materials are eliminated and the reaction changed. In some of the sulphocyanid combinations in which we get the bad odor as illustrated in the above case the chemic change causing such odor is as follows: Sulphur itself is an acid element which unites with oxygen to form an acid radical, but in a sulphosalt the sulphur takes the place of the oxygen in the acid radical. The sulphocyanid itself would be a sulphosalt in which, in combination, the sulphur would take the place of the oxygen and give off sulphuretted hydrogen. In a sulphosalt the sulphur takes the place of the oxygen in combination to form an acid. A sulphocyanid is a sulphosalt and when the sulphocyanid is in excess, when liberated and coming in contact with the secretion which contains moisture (H_2O) the sulphur would unite with the hydrogen, giving off free oxygen and form hydrogen sulphid. A radical is a group of atoms having an unsatisfied valency, and is really unsatisfied molecules which go into or out of combination. It is possible then to have in a hyperacid condition many chemic combinations take place. This chemic result surely verified the olfactory diagnosis in this case.

CASES NEITHER HYPOACID NOR HYPERACID

That cell nutrition depends on the chemistry of its supply is illustrated in disease processes associated with any form of infection or rise of temperature. This opens up an enormous field for speculation and investigation. The amount of infection, the peculiar chemic change produced by temperature, the materials absorbed into the body from infective processes, or the autoinfection from the intestinal tract, would in each condition produce its own peculiar chemic compound. Yet I believe a general basis can be reached, at least sufficiently accurate, from which to draw chemic and clinical deductions.

For example of peculiar effect on various structures in the body brought about by an altered chemistry in which the secretions may be neutral or irregular, I will quote from an article which was published in *American Medicine*, Feb. 8, 1903, in which I reported a number of cases of enlargement of the thyroid gland in which the cellular elements of the thyroid structure were increased, the enlargement not being due to distended vessels, cystic condition of the gland, or new growth.

I reasoned the matter out as follows: It is a well-known physiologic and therapeutic fact that certain drugs have a selective action on certain tissues or organs of the body, e. g., belladonna, with its selective action on the pharyngeal surface, sodium phosphate, with its selective action on the liver, etc. It is also a physiologic fact that the normal chemistry of the body controls the normal secretions from the various secretory organs, that any perversion from the normal necessarily alters the character and chemistry of the secretion, and that the products of such alteration act as irritants to certain parts of the body, the difference between this and drugs administered is that one is introduced into the body and one is manufactured within the body. I, therefore, reasoned that under certain conditions there is precipitated—due to perverted chemic reaction—a certain material, which, circulating through the blood had a selective action on certain tissues, in the cases observed such selective action occurred in the thyroid gland, acting as an irritant to that gland. While the treatment of these cases reported was somewhat theoretical, I believe, however, that the drug introduced into the body, by its chemic action, altered the chemistry of the material which was acting as an irritant, either rendering that irritating material inert or forming a compound which was nonirritating.

In regard to the pathologic chemic process producing such reactions of the secretion, it is a well-known clinical and laboratory fact that a study of the products of the secreting organs, which in their excretory functions throw off waste material, gives us by deduction a fair idea of what process is going on within the body. Yet this excretory secretion or material is altered in its chemic composition and controlled by the chemic constituents within the body proper.

There is no question that under certain conditions—for example, when the secretions are acid or alkaline—the chemic process taking place within the various secretory glands must vary, and the product of such variation in these unknown quantities must be somewhat the same as the variations we would obtain in dealing in the laboratory with known compounds. In other words, that the body is largely a chemic laboratory, having on hand a certain amount of material and having added to it daily ingredients through the respiratory and alimentary tract Now, any perverted conditon from what is known as the normal chemistry may bring about a series of changes and produce chemic products which may be harmless or productive of disease processes On no other basis can we explain the various diatheses and the precipitation of certain materials in the tissues of the body

The altered chemistry of the saliva presents many possibilities from an etiologic standpoint Many forms of lesions of the mucous membrane of the nose, nasopharynx, larynx, mouth and gums, as well as diseases of the stomach and intestines, may be brought about by the altered chemistry of the saliva A great many morbid processes are traced to uric acid in some of its many forms, but I believe that many other substances, especially hyperacid conditions, equally important are deposited and eliminated, which substances act as irritants, producing apparent local lesions It is a well-known clinical fact that saliva from certain individuals is exceedingly poisonous, as is indicated by the infectious wounds produced by the bite of such individuals, showing that the saliva may be the site of poisonous pathologic, as well as physiologic, compounds This is especialy true in the sulphocyanid cases

Unquestionably the chemic reaction of the secretions of the body is an important factor in the susceptibility of individuals to disease I think there is no doubt that the fact that at one time the individual resists disease and at another time succumbs can be largely explained on this basis To be sure, it is a question of resistance on the part of the individual, but that resistance is largely controlled by the chemistry of the cell or secretion It also demonstrates the fact of the accumulative phenomena of certain of the diseases, as is illustrated in uric acid diathesis, which Haig has described as the uric acid storm There is no reason why these same phenomena could not occur as the result of the accumulation of other materials brought about by chemic changes which lessen oxidation and tend to precipitation and accumulation of various morbid products

The administration of drugs for the relief of, for example, an infective process, probably affects such a process beneficially, owing to the fact that in its action it changes the chemistry of the secretions and blood constituents, thereby producing a chemic compound which either prevents the formation of infectious material or alters the nidus of infection to such an extent that it is not suitable for the growth of bacteria

While my investigations are incomplete and fragmentary, I am convinced that from the study of the saliva we can determine to a great extent any variation in the chemistry of the body As these various secreting glands receive from the blood the supply from which they elaborate certain chemic compounds, if an analysis were made of the composition of such secretions it would give a good index to the general condition of the individual, and while in many cases the deductions would have to be based on or associated with clinical observation, I have found them to be of immense value from a standpoint of diagnosis

The fact that the reaction of the secretion may be apparently acid when there really is present an alkaline condition, explains to us many of the cases in which, from an acid basis, our treatment has failed That such [illegible]dition may exist has been shown by Douin [illegible] in their studies of the blood, that the [illegible]e plasma is really acid and if waste products are not eliminated this acidity is increased The secretions and excretions then also become of an acid reaction

The irritating gases which form in the stomach and intestines and produce laryngeal and pharyngeal irritation, are the result of chemic changes in the intestinal secretion, and such chemic change in the secretion can be demonstrated by a study of the saliva That autoinfections and chemic changes in intestinal secretions have a marked general effect on the individual is well known Such material absorbed into the system will unquestionably alter the chemistry of all secreting glands, and the compounds formed by such alteration which affect the individual can only be determined by the study of organic chemistry The asthmatic conditions which are not associated with any organic lesion, I believe can all be explained on this basis, and when treated accordingly can, in many instances, be relieved

In examining the secretion and excretion of the body, we can obtain as good an index of the systemic condition of the individual by a study of the saliva as by a study of the urine, in the urine we have only an index of the waste material, while in the saliva we have products of elimination which return into the body to perform a physiologic process

Another important factor to be worked out is the different chemic changes which take place in individuals suffering with so-called functional diseases and those suffering from organic or structural changes In the functional we have a perverted chemistry, which may be brought about by many causes, such as faulty elimination, from the kidneys or liver, and perversion of secretion from the intestinal tract, autoinfection from the intestinal tract, also chemic changes of the secretion illustrated in mental tension from fright, worry and anger, while in the organic lesions we have to deal with a structural change in tissues, with retrograde metabolic changes, in which there is also associated inflammatory processes with their accompanying phenomena and physiologic and pathologic effect on the individual

EFFECT OF CLIMATE AND ALTITUDE

The effect of climate and altitude on hay-fever individuals is interesting from a number of standpoints If the disease is distinctly a neurosis, why should the patient, as a rule, improve in a high, dry altitude, when such altitudes are decidedly irritating to a nervous individual? Why is it that an individual, after having hay fever for several years, will miss one season, or even two, having no treatment whatever? Personally, I think the answer lies in the individual, at least in a majority of cases and that the secretions of such individuals having changed under certain conditions were non-irritating The famous case of Mackenzie's, in which the artificial rose produced an attack of hay fever, surely is strong evidence in the line of neurotic origin At the same time, in a nervous individual with a perverted nutrition and necessarily perverted secretion, any particle of dust or anything whatever that would stimulate the nasal mucous membrane would promote the flow of secretion, which secretion being decidedly irritating would at once bring on an attack

INDIVIDUAL VARIATIONS IN SUSCEPTIBILITY

Another interesting fact is this That in the cases which I have watched closely for the past eight years, the hay fever was no respector of persons as to weight that some individuals who were stout had the worst form of hay fever while others who were very thin had equally bad attacks

I also noticed that in a number of such individuals, when the secretions were changed and irritation ceased in some of the stout cases, they lost flesh rapidly, one patient losing as much as 40 pounds, while the thinner individuals improved in weight This led to a comparison of the chemic examination of the various individuals The very thin individuals in 90 per cent of cases had an excess of sulphocyanids which, of course, was acting as an autotoxic infection, while in the excessively stout individuals the reaction of the secretion varied, usually neutral or acid, which, of course, predisposes or causes lessened oxidation and increase of fatty tissues Also that in individuals with an excess of the sulphocyanids, the individual always has the appearance of an autotoxic infection, deranged digestion and intestinal tract, and with the relief of this condition always shows rapid improvement

Is it not possible that certain pollens coming in contact with the nasal mucosa, thereby acting as stimulants, promote the flow of secretion, and when such secretion is poured out on the surface either, as I have stated before, as an irritating secretion or when combined with the pollen, a chemic change takes place and an irritating material is produced? Dunbar's inoculation theory surely proves this statement, and agrees exactly with what I have said as to the secretions Under this class of cases would come the rose cold, the ragweed, the horse fever, hay fever, rye fever, etc Think of the difficulty of procuring an antitoxin for horse fever! In all such cases I think that the secretion is the predisposing and the extraneous material or pollen is an associated factor

As is shown by Dunbar, the inoculation method is not successful in all cases, which is easily understood, as the chemistry of the secretions in the various individuals are markedly different, so that instead of an antitoxin for exciting factor, use preventive measures by altering the secretion My own experience surely justifies this statement Unquestionably, certain individuals, owing to the low grade of their vitality and neurotic temperament, are more likely to be subjects of this disease than persons of healthy type, nevertheless, many individuals of most perfect physical condition are the worst sufferers from this peculiar and annoying disease and while I do not wish to be understood or quoted as saying that all cases of hay fever can be cured on this basis, my own experience does show that between 80 per cent and 90 per cent of the cases can be relieved and cured When I say cured, I mean in the same sense as you would speak of curing a cold, and most certainly if the condition of the secretion changes and the irritating material returns, if the individual is exposed to the same irritants, he most certainly would have another attack

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DISCUSSION

Dr E C Kirk, Philadelphia—My interest in this matter originated with a paper read by Dr Michaels in Paris in 1900, subsequently I spent some time with him in his laboratory and went over the subject in detail I have been studying the changes in the saliva since that period, and have become convinced of the importance of the generalizations made by Michaels that the chemical composition varies quite constantly with certain pathologic states, especially in relation to faulty metabolism My own studies have been largely confined to the pathologic conditions of the soft tissues of the oral cavity, especially of the retentive tissues of the teeth The method of study suggested by Michaels, the use of the micropolariscope, first made it possible to accurately know the chemistry of the saliva, it gives a means of analysis which is extremely delicate and is as accurate in qualitative test as the gravimetric method could be With the use of the polariscope we can detect the salts by polarized light It is quite true that a study of this subject tends to confirm the general views entertained regarding the etiology of gout and other similar conditions We have in the arthritic subject a condition of insufficient oxidation with large quantities of carbon dioxid dammed up in the blood plasma It is part of the function of the kidney epithelium to return sodium bicarbonate to the blood and eliminate the acid phosphates through the urine as a result of the mass action of carbonic acid on the basic phosphates of the blood plasma When the condition becomes excessive and chronic, it causes the loss of enormous quantities of phosphorus resulting in phosphorus starvation, and during that period other waste products, irritative in character, manifest their presence Prominent among these is oxalic acid Oxaluria generally means a state expressed in the terms of calcium oxalate Enormous quantities of sodium oxalate, however, make their presence felt about the time phosphatic starvation supervenes The patients then become neurasthenic, and in that connection also we have certain local phenomena I have watched the development of leucoplasia in the mouth and its subsequent degeneration into epithelioma I am of the belief that there is a definite relation between the irritation which these waste products produce and the conditions of the nasopharynx described by Dr Kyle I regard them as productive of direct irritation to the mucous surfaces, and that they may even stimulate the tissues to the formation of new growths

Dr Judson Daland, Philadelphia—A proper appreciation of the chemical causes of this affection indicates a plan of treatment which has given brilliant results It is not at all improbable that certain spasmodic bronchial affections that are usually considered under the name of asthma may have a like cause and a study of the disease from this standpoint may yield similar therapeutic results The profession has been gradually recognizing the importance of hyperacid conditions of the upper respiratory tract and mouth, but Dr Kyle is to be complimented on drawing attention to direct poisonous inflammation of sulpho cyanids and of the marked local irritating effects of hyperacid conditions which are frequently in association with ammonia compounds, and, at times, free ammonia These observations are of importance to the general practitioner because of their prejudicial influence on the general health, and there can be little doubt that certain cases of general toxemia are due to this cause On the other hand, I am inclined to believe there are certain cases of toxemia of intestinal origin, usually fecal, that play an etiologic rôle in the production of the morbid chemical state of the nasal secretions and saliva. If we remember that within a very few minutes after the taking of lithium, it can be discovered spectroscopically in the saliva, and that normally within eight minutes after the swallowing of a solution of iodid, iodin can be detected in this same secretion, we realize how rapidly is the diffusion of these soluble substances and how promptly the salivary glands excrete these substances which here have the peculiarity of again being swallowed to again be absorbed into the circulation I shall in the future give especial attention to the chemistry of the saliva and nasal secretions, more especially in well marked examples of auto intoxication, nervous asthma, hay fever and neurasthenia

Dr E Fletcher Ingals, Chicago—The paper recalls to my mind the remark of the professor of medicine when I was a student, who, when asked what he would do for a certain disease, replied that it would depend entirely on what was the matter It is encouraging to find some men searching among the living for the causation of disease. Pathologists deal with the dead, and hence become therapeutic agnostics In the past nearly all medicinal treatment has been empirical, but the kind of experimentation outlined in this paper is destined to do much to enable us to know for what reason we are giving our remedies It is certainly unwise to continue to give medicines, the action of which we can not satisfactorily explain The pathologic side of disease is of great importance, but we should bear in mind the fact that over 90 per cent of the physician's work is therapeutic in character, and that nine out of every ten sick people get well Our aim should be to try to cure them more quickly, and it seems to me that the greatest work before the profession in the coming years is along the line of therapeutic research In our hospitals we find bright, energetic internes, but quickly discover that they have little knowledge of therapeutics In the large hospitals with which I am familiar nothing whatever has been gained in the way of therapeutics for the past twenty five years It is difficult for the older members of the profession to do research work, and the younger men have not been encouraged to undertake it in this line

Dr W H F Fitzgerald, Hartford, Conn —I believe the position taken is correct that these conditions are due to irritative changes, basing my opinion on the history of twenty four cases I have worked at myself during the past two years There can be no question about the irritative effect on the lining membrane of the nose, and it really makes little difference where this area is located In my opinion, it is due entirely to the fact that the individual in question does not use his nose' As a class, we do not know how to breathe, and just so long as we go on breathing through the mouth we are bound to have these irritated areas

A man may go to a certain district and the irritating pollen or organism attacks a particular irritated area of the mucous membrane of the nose and produces the condition of hay fever Of these twenty four cases treated, I have had but one case return, I have heard from all of them, and they have stated that they have had no recurrence This is due largely to the fact that they are now breathing as they never did before I see that they breathe properly at night, for I plaster their mouths up during the night and make them exercise the nose during the day In the treatment of these cases I have employed no therapeutic measures at all after obliterating the irritable areas One of the worse cases I ever saw was that of a minister who was prostrated two or three days out of every week, and at one time for nine months continuously He then lived in the west, and for the past three years has been living in the east, and his trouble was as great in one locality as in the other I found he was a very bad breather, and I have succeeded in making a good breather out of him He recovered entirely, and even went back to his former residence looking for trouble; but failed to find it

Another case was that of a woman who used from forty to sixty handkerchiefs a day during a period of thirteen years The condition was complicated during the thirteenth year with attacks of asthma which kept her awake most of the night I removed obstructions, irritable areas, etc , and discharged her over a year ago She has since been averaging not more than one handkerchief a day, and says that she has had but one slight attack of asthma in the course of the year She states that she often had the feeling that if she took one breath through her mouth she would have another attack, and that under these circumstances she often resorted to the plaster during the day Since she has become a normal breather this has not been necessary

Dr W S Anderson, Detroit—Has Dr Kyle made any study of the secretions of the pharynx in mycosis leptothrica? It runs a very stubborn course and occurs usually in healthy persons

Dr J Holinger, Chicago—There is a series of experiments which have a bearing on this subject of the chemical composition of the saliva and all the juices of the digestive tract with reference to the food taken In experiments with dogs, it has been found that if a certain character of food is offered to the dog the saliva has characteristic changes going very far in the direction spoken of How can this series of experiments be brought into connection with the paper?

Dr G V Woollen, Indianapolis—I have examined the statistics relating to the surgical treatment of these cases and have not been satisfied that they offered a definite solution of the problem When Sajous' book came out, dealing with peculiar idiosyncrasies, external irritation and diseased noses, we thought we had the solution in a definite form, but the idiosyncrasy suggested did not wholly satisfy me because this condition of the system is present at all times of the year I then began, not chemically but clinically, to gather and observe these secretions I have carried this investigation to an extreme degree ever since and am convinced that the secretions do not offer a solution of the whole matter I also felt that if I could control the acid condition of the system I should have the key to the whole matter, but that was a disappointment I am disappointed to day There has been a great deal said with reference to the mouth and pharynx, but these do not explain the conditions in the nose As Dr Ingals has intimated, the discussion is in the right direction and younger men will perhaps work out the problem along the chemical line

Dr D B Kyle—Many of the points which have arisen in the discussion will be found answered in the remainder of the paper, all of which was not read on account of its length I omitted to say that the chemical reaction of the saliva is so nearly the same as that of the nasal secretion that I did not use the terms nasal and salivary each time In some cases, if tested at the same time, one will give an acid reaction and the other alkaline, but if the chemical composition is studied they will be found not to differ, the chemical reaction having changed after exposure to moisture and air

As to mycosis, if it is a genuine case of mycosis and not keratosis, it is a well known fact that bacteria grow better in alkaline media than in acid I have made a careful examination in a few cases of pharyngeal mycosis and the secretion was alkaline in reaction

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POISONING BY WOOD ALCOHOL

CASES OF DEATH AND BLINDNESS FROM COLUMBIAN SPIRITS AND OTHER METHYLATED PREPARATIONS [*]

CASEY A WOOD, M D
CHICAGO
AND
FRANK BULLER, M D
MONTREAL

With the kind assistance of the profession in the United States and Canada, we have been able to report the following instances of methyl alcohol intoxication, most of them hitherto unpublished

The list of deaths and cases of blindness following the ingestion of "Columbian spirits" and other forms of wood alcohol, as well as methylated "Jamaica ginger," lemon "extract," "bay rum," "cologne water," "witch hazel," essence of peppermint, essence of lemon, etc , not to mention all sorts and kinds of other official, domestic and proprietary remedies into which alcohol enters, has lately grown to alarming proportions This record of death and blindness has been made in recent years only, since the cheap, "deodorized" methyl alcohol [untaxed, retail price 50 cents a gallon, ethyl alcohol, taxed, retail price $2 60 a gallon] has been put on the market

Wood alcohol and methylated spirits made by the old processes subserved useful as well as harmless purposes They possessed practically all the solvent and other properties required for the various arts in which they were employed, and no one thought of drinking them or employing them as adulterants in foods or drugs Indeed so abhorrent to the organs of taste and smell was even a small percentage of wood spirit in any mixture, that no person in his senses would drink so nauseous a compound, however diluted and disguised, or however much he craved an alcoholic drink

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[*] Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Ophthalmology and approved for publication by the Executive Committee Drs Frank Allport, John F Weeks and R I Randolph

With the advent of preparations like "Columbian spirits,' 'colonial spirits," "eagle spirits," *et hoc genus omne*, the principal safeguard against poisoning by methylic alcohol has been removed Some of these deodorized alcohols are with much difficulty distinguished by the laity from pure ethyl alcohol Hence it is that in spite of ordinary precautions, such as labeling bottles of these preparations 'not to be taken internally," they have been and are now, through accident and design, much used as substitutes for grain alcohol

The appended histories by no means constitute a complete list of deaths and blindness from wood alcohol poisoning A more careful canvass will, we are sure, bring to light numerous additional instances of this intoxication that we have not been able to gather during the limited time at our disposal The remarks of Dr Moulton properly apply to many localities where grain alcohol beverages are difficult to procure

> Cases (of wood alcohol poisoning) are of frequent occurrence in Indian Territory, where the sale of ethyl alcohol is strictly prohibited by the United States government, so that those who crave stimulants drink anything they can get I can safely say that in that country at least fifty deaths have occurred from this cause in the last few years

The same remarks apply, though in a less degree, to methyl alcohol blindness A circular letter on this subject was addressed by Dr Wood to a large majority of the ophthalmic surgeons in the United States and Canada, and there is good reason to believe that, as a result of these inquiries, descriptions more or less complete of most of the well-defined and recent cases of wood alcohol amblyopia and amaurosis will be found in this report At the same time, since blindness from methylated liquids was practically unknown until the recent introduction of this "purified" product, medical men may well be excused for not recognizing, for attributing to other causes or for afterward forgetting cases that several years ago came under their notice

For purposes of subsequent reference we have divided these histories into four classes

Class A —Published cases of blindness or blindness followed by death, due to the drinking or inhalation of methyl alcohol The cases comprised in Class A were collected, abstracted and tabulated by Dr Buller

Class B —Cases (hitherto unpublished) of blindness or blindness followed by death from drinking methylated liquids

Class C —Cases (hitherto unpublished) of blindness from methyl alcohol absorbed through the lungs or skin, or both

Class D —Cases (hitherto unpublished) of death from methyl alcohol poisoning, without history of previous blindness

The cases detailed under Classes B C and D have been collected and edited by Dr Wood The sources of the information in the last three classes, arranged in alphabetical order, will be found at the head of each history

SUMMARY OF PUBLISHED CASES

The tabulated records (to appear later in this article) of 54 of the published cases show the ages of individuals to be from 21 to 65 years, mostly about middle life Of 51 we note Sex, males 47, females, 4 Habits of life, 8 were or had been hard drinkers, 9 admitted occasional indulgence, 3 habitually temperate 30 habits not stated but no doubt most of them were more or less addicted to alcoholism Six are reported to have used tobacco in excess, as well as alcohol Occupations Artistic painter, 1, attendant, 1, bricklayer, 1, barber, 1, carpenter, 2, china decorator, 1, convicts, 3, dressmaker, 1, farmer, 2, housewife, 2, hotel keeper, 1, miner, 1, millhand, 1, workmen, 1, mechanic, 1, soldier, 1, sailor, 3, woodsman, 1, watchmaker, 1, upholsterer, 1, not stated, 20

As to the mode of occurrence In most instances the trouble occurred as a result of a spree, generally together with friends or associates, *in a few instances* the alcohol was taken by accident The preparations nearly all undoubtedly contained the drug, methyl alcohol, as the sole or chief toxic ingredient In 28 cases methyl alcohol was specified, in 12 Jamaica ginger, in 1 Columbian spirits, in 2 essence of lemon or cinnamon, in 1 cologne spirits, so called, in 1 an unknown alcoholic mixture, in 3 methyl alcohol vapor was inhaled

As to the quantities consumed The methyl alcohol series varied from half an ounce to 16 ounces The Jamaica ginger from 3 ounces to 25 ounces, the larger quantities usually in divided doses over a period of several days Columbian spirits from 6 ounces to 8 ounces and in 2 cases quantity unknown Essence of lemon, 5 or 6 ounces in one case in the other quantity unknown Cologne spirits less than 8 ounces Of the unknown strong alcoholic liquor, 15 ounces Of the three inhalation cases quantity inhaled conjectural

As to general effect Headache was mentioned in 19 cases as a conspicuous symptom, gastric pain in 11 nausea and vomiting in 26, dilated pupils in 20

The results as to visual disturbance were 16 total blindness, 3 total blindness of one eye, 15 partial recoveries, 7 recoveries, 10 remaining cases terminated fatally, sight became dim in three hours in one case, six hours in 1 case, eight hours in 1 case, ten hours in 1 case, twelve hours in 2 cases, twenty hours in 1 case, twenty-four hours in 19 cases, forty-eight hours in 5 cases, three days in 2 cases, six days in one case, seven days in one case, sight became lost in twenty-four hours in 10 cases, in thirty hours in 2 cases, in twelve hours in 2 cases, in forty-eight hours in 3 cases, in three days in 3 cases, in four days in 3 cases in five days in 2 cases, in six days in 2 cases in seven days in 1 case, in eight days in 1 case, in seventeen days in 1 case Of the remaining 21, facts in this connection are not definite

Certainly few members of the medical profession, and practically no one of the general public are as yet aware that methyl alcohol taken into the system in moderate or considerable quantity not infrequently causes death, after the manner of the cases just cited More than this, the people are still less cognizant of the fact that a certain proportion of those who survive the poisonous effect of the drug are condemned ever afterward to the miseries of greatly impaired vision, and, indeed, not infrequently to absolute blindness It is a remarkable circumstance that notwithstanding the accumulated evidence of many similar recorded facts, there still exists a widespread unbelief in the toxic action of wood alcohol Not long ago, with the object of discovering cases of methyl alcohol poisoning known to have occurred in Canada, Dr Buller wrote to thirty or more Canadian oculists, asking each one for his experience in this direction One sent this reply, which is worthy of record It runs as follows

> I have not met with any case of blindness from drinking wood alcohol nor heard of any, *notwithstanding the fact that*

I live quite near one of the largest distilleries of methyl alcohol in Canada The prevalence of the habit of intoxication from wood alcohol must be greatly exaggerated

The italics are Dr Buller s Two only sent records of cases they had seen, some fifteen replied that they had no experience

Altogether, Dr Buller knows of only five reported and three unreported cases in Canada, and has heard of four others, without so far having been able to obtain facts regarding them Of the five reported cases three if not four actually occurred in the United States giving, therefore, up to the present time only one reported and three unreported cases which have happened in Canada It would thus appear that wood alcohol poisoning occurs much more frequently in the United States than in Canada, since of the 54 cases of which Dr Buller has collected details some 47 occurred in the United States and two in Europe

B —CASES (HITHERTO UNPUBLISHED) OF BLINDNESS OR OF BLINDNESS FOLLOWED BY DEATH FROM DRINKING METHYL ALCOHOL

CASE 1 —(From Dr James A Bach and Dr Joseph Schneider Milwaukee Wis)

D McK Ashland, Wis, on Nov 26, 1903, was taken ill with abdominal pains and diarrhea, while engaged in "scaling" lumber in the northern woods of Redcliff, Wis Being far from any doctor, he secured a bottle of Hinkley s bone liniment and took the same internally according to directions a teaspoonful every hour for a few hours, then less often This treatment he continued from November 26 to November 27 inclusive On November 29 Mr McK found his sight leaving him Within twenty four hours he became totally blind in his left eye and partially so in the right eye He thereon consulted a doctor in Ashland, Wis, who told him that the "liniment" had probably "done the work" The patient is now (May, 1904), a man of about 46 years old, strong and robust in appearance and apparently has no bad habits There is nothing in his history to account for his condition but the fact that he took the quack medicine as above stated, which was followed so promptly by practical blindness The left disc is gray white and the smaller papillary capillaries and vessels are absent with the exception of the lower macular artery, which is still seen The larger arteries and veins are reduced in size about 20 per cent V = no perception of light The right disc is also whitish, with a decided diminution of capillary circulation, but not so marked as the left V = 3/40 The visual field in the right eye shows a large, absolute scotoma not quite central, with concentric limitation marked[1]

CASE 2 —(From Dr Wilfrid Beaupré Quebec Canada Reported by Dr Frank Buller, Montreal)

J D aged 42, machinist, was in the habit of indulging in liquor to excess every month or two After one of these "sprees" on March 6, 1898, having no more whisky on hand, he drank about half a tumblerful of methyl alcohol from a bottle in the house He took this one drink only and in a few hours drove to the doctor's office nearly blind His vision in either eye was finger counting at nine inches He had intense photophobia and pain in the head, the papillæ were white, but the retinæ showed no particular change He was immediately put on potassium iodid with bromids For a time there was considerable improvement in his vision so that he returned to work On March 20, however, he again noticed failing sight and when Dr Beaupré saw him on March 21, V R =15/40, V L =15/200 The iodid was continued and he returned on the 31st when V R =15/20, V L =15/40 April 18 1898 V R =15/40, V L =15/100 April 25, V R =15/50 V L =15/100 Then citrate of iron and strychnia were prescribed On May 9 the nerve heads were decidedly white V R =15/75, and V L =15/200 The patient's eyesight now became so defective that he was obliged to abandon his work and engage in selling candy in a small store. Even then he found it difficult to recognize coins or to distinguish the figures on bank bills When Dr Beaupré last heard of him he had entirely lost useful vision

CASE 3 —(From Dr M H Bell, Vicksburg, Miss)

M B, man, white, aged 50, occupation, blacksmith Now in the Mississippi State Charity Hospital under Dr Bell's care. V, each eye, = light perception, eyes look entirely normal externally Ophthalmoscope shows no marked changes There is more pigment scattered over the fundi than is usually found Nerve heads normal, vessels, both veins and arteries, are small, two-thirds usual size Two years ago he was working in a "dry" county and, as was the habit there, used "peruna," Jamaica ginger, etc, as stimulants The patient's usual drink was the ginger, and he told Dr Bell that he had been taking an occasional drink of it for three or four months While at work one day he suddenly became blind, so that he had to be led home by another man This was followed by nausea lasting two or three hours On the same morning he had taken two or three drinks of ginger, rather indefinite as to quantity On the following day his sight returned, but since that time gradually failed for eighteen months, after which it has remained the same He can not now go about without some one to guide him Although no analysis was made of these beverages the clinical history and the other facts in the case point directly to methyl alcohol intoxication

CASE 4 —(From Dr George H Bicknell, Omaha, Neb, Dr George B Simpson, Sheridan, Wyo Dr Casey Wood Chicago)

G W A, ranchman, Scotch, aged 35, had always had good health An examination by Dr W A Evans of Chicago proved him to be free of syphilis rheumatism, or any disease of his internal organs Blood, urine, etc, normal On July 4 1899 in company with a number of companions, he proceeded to celebrate the day by getting gloriously drunk It is not known exactly what sort of alcohol the party imbibed, but it was considerable in amount For the following four days he suffered from severe and constant frontal headaches, nausea, pain in the abdomen, frequent fits of vomiting and difficulty in breathing About forty hours after the spree began he noticed a "dazzling" sensation in front of his eyes and in two or three hours more was totally blind Dr Wood saw him in consultation with Dr Bicknell on July 28 1889, when he said that on July 25 he first noticed his returning eyesight This improvement in vision continued for a while, but there was a relapse about the time he left for his home in Scotland, the following November On July 28, 1899, V R =no p l, V L =hand movements in the lower third of the field Pupils widely dilated Tension normal Light reflexes absent doubtful as to accommodation Lenses showed a few striæ Both fundi exhibited blurred papillary outlines with loss of the usual transparent appearance of the nerve heads Retinal veins somewhat engorged, arteries smaller than normal This patient was vigorously treated by Dr Simpson with potassic iodid, electricity and, later, was ordered full doses of iron and strychnia Improvement for a time set in with enlargement of the small eccentric field for white in the left eye In July, 1899, he was able to see shadows and the outlines of large objects in the upper part of the right field and to count fingers at six inches with a small area in part of his upper left retina On Nov 13, 1899, his vision was much worse He, at that time, perceived hand movements in the left eye eccentrically, but there was no light perception in his right eye The fundus pictures were then greatly changed The nerve heads showed shallow atrophic excavations, the discs being whitish, veins of normal size, arteries small Tension normal in both eyes The patient was given a letter to Dr Argyll Robertson, Edinburgh and has not been heard from since

CASE 5 —(From Dr Emil Bories, Seattle, Wash Reported by Dr Hamilton Stillson, Seattle, Wash)

A German, aged 27, cabinetmaker by trade, drank about two ounces of wood alcohol that was used in a saloon for filling cigar lighters Seen about an hour afterward Was in deep stupor, snoring, stertorous breathing, could not be aroused by his companions Features pale body cold bloody froth from mouth, pupils dilated, no reflexes Had him taken to city jail, where, after heroic rubbing, applying of hot packs, and hypodermic *injections* of strychnia, he was sufficiently aroused to answer his name Recovery Vision, as well as his gait, was affected for several days

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[1] An examination of the proprietary remedy referred to in this report was recently made for me by a competent chemist and found to contain a large percentage of methyl alcohol —C A W

Case 6 —(From Dr A H Brundage and Dr James W Ingalls, Brooklyn, N Y)

Mrs M, living at East Brooklyn N Y, aged about 35, was addicted to the excessive use of alcoholic drinks and occasionally drank grain alcohol with water and sugar Having heard that wood alcohol was about the same thing but much cheaper she purchased half a pint and drank most of it

She was found partly unconscious and sweating profusely She was nauseated, vomited severely and was delirious, with pupils dilated Seemed chilly Vision gradually became blurred Died in about thirty six hours from the time the wood alcohol is supposed to have been drunk

Treatment—Free syphonage of the stomach, cold effusions to head, caffein, digitalis, pilocarpin, external heat, oxygen, rectal injections of hot coffee, and also of normal salt solution

Case 7 —(From Dr Henry D Bruns, New Orleans La)

A man, about 50 years of age came to the clinic in 1902 with the following history He had made toddy one evening with Columbian spirits, of which he took several drinks, *using at* least an ounce of the wood alcohol Shortly afterward his vision completely failed him He then regained much of his sight for a brief period but finally became totally and permanently blind[2]

Case 8 —(From Dr Henry D Bruns, New Orleans, La)

This case,[2] is that of a man of middle age who ingeniously concocted a "highball" whose spirituous portion consisted of a popular 'antiseptic" He promptly became blind but when seen a week later had somewhat improved in vision He left the clinic and it is not possible to say whether the improvement held or not Dr Bruns had the proprietary article employed by this patient analyzed by the chemist of the board of health It contained a large percentage of wood alcohol

Case 9 —(From Dr A. E Bulson, Jackson Mich , Dr Pray, physician to the State Prison, Michigan, Dr J F Byington, Battle Creek, Mich)

John C convict, aged 48, appeared March 5, 1903 at morning sick call and asked to be excused from work He walked unsteadily and the pupils were somewhat dilated He said he had eaten no breakfast and had vomited On accusing him of having taken some drug he admitted that he had drunk wood alcohol This was used in the prison shirt shops for dampening collars for the purpose of turning them The mixture was equal parts of wood alcohol and water with glycerin, 2 ounces to the pint. On March 3 patient consumed 10 ounces of this mixture, and on the next day 4 ounces He was sent to the hospital and treatment, consisting of large doses of bismuth given to quiet the intense, burning pain in the stomach At 7 p m although the electric light at the head of his bed was turned on, he asked to have a light in other words, he was apparently blind Dr Pray says the blindness came on quite suddenly He instituted alternate hypodermics of pilocarpin and strychnia every four hours (1/16 gr pilocarpin, 1/30 strychnia) and potassic iodid grs 20 On March 10 the patient could distinguish the hand held close to his eyes March 15 he could see quite plainly March 18 again failing vision, and on March 24 very poor vision Discharged from hospital March 27 Strychnia and potassic iodid continued in pharmacy Vision 7/30 Dr Bulson examined this case later and found only light perception in the right eye with blue white discs and marked retinal changes, the former more pronounced on the temporal side In the left eye V = 3/20 for central vision about the same changes in the papilla There was a decided contraction of the peripheral field In September, 1903, Dr Byington again examined this man who, then a blind peddler, presented himself with the request that the physician, as a matter of charity give him a "statement of his case" so that he could the better dispose of his small stock in trade Dr Byington *made only* the superficial examination demanded by the patient and found V = finger counting at 3 to 4 inches in each eye, associated with white atrophy of both nerve heads—each lamina cribrosa being distinctly visible at the bottom of a shallow, atrophic excavation

Case 10 —(From Dr *Homer* Collins, Duluth, Minn)

J A, aged 40, carpenter, Cromwell, Minn , was in the habit of going on *several sprees yearly*, but avoided liquor between these sprees Used tobacco, smoking or chewing about 'ten cents' worth a week" On Nov 22, 1901, with a companion, he drank about one dozen bottles of *Jamaica* ginger bought at Cromwell The following day the companion vomited freely, but his eyes did not suffer The patient vomited "everything' the next day and his eyesight began to fail at once On the second day he could distinguish only light from darkness, and remained in this condition for two days Then improvement of vision began and continued until about Dec 12, 1901, when V = 2/200 (white letters) in either eye Right half of each field was covered by a scotoma, the most acute vision being eccentric, to the nasal side of the fixation point In the left eye the field is very little contracted, central vision is best. There is some tenderness above and behind the eyeballs The patient gave the history just outlined and stated that immediately after the poisoning he had considerable pain in his eyes, which were too sore to touch He was put on pilocarpin treatment, under care of the county physician, and on December 22 thought he could see a little better but tests showed no improvement, and there has since been little change in his condition Bilateral post neuritic optic atrophy

Case 11 —(From Dr Coote of Quebec, and Dr Frank Buller, Montreal, Canada)

A man between 28 and 30 years of age, well built and healthy in appearance, without any history of a serious illness, while working in a lumbering camp, caught a slight cold To cut the trouble short he took what he considered a big dose, about a wineglassful of methylated Jamaica ginger He commenced to suffer from violent headaches and retching shortly afterwards Some twelve or fourteen hours later his sight commenced to grow dim A second dose was then taken and his sight grew worse He was taken home and, with the exception of his eyes, he was shortly well again About three months later, when he appeared at the hospital, central vision in both eyes was completely lost Toward the periphery of the field of vision in both eyes a few patches of retina remained sensitive to light and fingers could be seen at a couple of feet The pupils reacted to light and on convergence Both discs were pale (not white) and the margins well defined, the arteries and veins were contracted, but not equally, the media were clear He was kept in the hospital for some weeks, but the treatment was of no avail

Cases 12 and 13 —(From Dr Homer Collins, Duluth, Minn)

In the year 1900 (exact date unobtainable), an Indian from one of the Minnesota reservations accompanied by an Indian attorney (G H B), consulted Dr Collins The history of the case showed that at least six Indians, having procured a supply of essence of lemon, drank freely of it Three died promptly, evidently from the direct effects of the beverage, one of them becoming blind before death Two others suffered considerably, but recovered without apparent damage to any of their organs The sixth Indian, the patient under discussion, survived, but became totally blind An ophthalmoscopic examination revealed marked atrophy of both optic nerves[3]

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[2] This case, as well as the next one, is entered in the tables published by Dr Bruns in the annual report for 1902 of the New Orleans Eye Ear Nose and Throat Hospital

[3] Through the kindness of Dr J W Chamberlin of St. Paul, Mr G H B wrote me the following note, giving further information regarding this matter 'Your letter of inquiry reached me at White Earth Minn In reply an Indian trader named Malone (afterward prosecuted by the U S) sold to several Mille Lac Chippewa Indians a number of bottles of essence of lemon on June 28 1897 which they drank in lieu *of alcohol* when that had been exhausted A large number of Indians drank alcohol only six or eight drank the essence of lemon The latter were all taken seriously ill within an hour after they began to drink the essence and three of them died before morning I can recall the *name of only one of* those who died a chief Mah-che-kewis. Another Indian Bud dub-ay keshig became blind and has not since recovered his sight. He is still living at Mille Lac. Minn. The others although very sick. recovered without any bad effects It was thought at the time that the death of the Indians was due to the wood alcohol in the essence of lemon C A W

Case 14—(From Dr W G Craig, Hartford, Conn)

M J, colored, aged 50, was given as a beverage a mixture of sugar, water and Columbian spirits, about three fluid ounces in all This was on April 30, 1902 The dose was followed by nausea and vomiting and in twelve hours by complete loss of vision She recovered her sight to some degree, but a month later it was only 1/8 in each eye Nerve heads chalk white

Case 15—(From Dr M M Cullom, Nashville, Tenn)

While acting as interne in the Manhattan Eye and Ear Hospital, New York City, the following case came under Dr Cullom's care

In October, 1897, a workman was brought into the hospital with the following history Two nights before he drank some wood alcohol in his room It threw him into a stupor and, as he expressed it, "When he waked it was so dark that he supposed it was still night" He groped his way out into the hall and asked some one the time and was informed that it was about 9 o'clock in the morning The following day he was brought to the hospital His pupils were widely dilated and did not respond to light He had only perception of light in both eyes The ophthalmoscope showed both nerve heads to be milk white in appearance and the entire fundus was blanched, the vessels being much smaller than normal He was put on increasing doses of strychnia nitrate, administered hypodermically, which were carried to the physiologic limit. The vision improved for a short time until with his left eye he could count fingers, but the improvement was soon lost and he was discharged as hopelessly blind There was no attempt made to secure a sample of the alcohol

Case 16—(From Dr I F Dickson, Portland, Ore)

Two teamsters, strong, healthy men, under 30 years of age, who had been working hard all night, arrived at a friend's house in the early morning, much fatigued The friend offered them a drink of something that, he said, "would make them feel better" He accordingly prepared a mixture of wood alcohol and water sweetened with syrup One man died toward evening The other took only a few mouthfuls and spat some of it out, as he did not like the taste Shortly afterward he became unconscious and remained so till next morning When he awoke he could only distinguish light, and within three weeks the sight was entirely lost About this time the discs began to show signs of atrophy, otherwise the fundi were normal He was first seen by a physician shortly after taking the drink, when it was noticed that the pupils were slightly dilated, but nothing abnormal was then seen in the background of either eye and no fundus changes appeared for about three weeks The latest report from the patient is that he is still totally blind

The following case is of great interest owing to its early occurrence (1898) It was one of the first examples of blindness due to bay rum made from Columbian spirits

Case 17—(From Dr J A Edwards, Columbia, Tenn)

In February, 1898, he was called to Centerville, a town thirty one miles distant, to see a young lawyer, W A K, aged about 26 years, who gave the following history Living in a "dry" town and being in the habit of going on periodical sprees he called on a friendly physician who was in the habit of giving him a prescription containing alcohol and any other simple drug which would protect the druggist filling it from prosecution for violation of the liquor laws On this occasion he was given, to supply the needed alcoholic beverage, as well as to protect the druggist against the provisions of the prohibition law, the following prescription

℞ Bay rum	2 fluid ounces
Alcohol	4 fluid ounces

Sig To be applied externally

He drank all this in an hour or so, and was afterward seized with violent pains in the stomach, nausea and vomiting, which continued about 24 hours, when he became totally blind Dr Edwards found him with pupils widely dilated and some tenderness of the globe on firm pressure Having obtained the above history of his case the diagnosis of retro bulbar neuritis or toxic amblyopia was made At that time very few reports of such cases had been published, but he was given an unfavorable prognosis, and was told that his vision would probably clear up in from ten to twenty days, but that blindness, either partial or complete, might recur from secondary changes in the optic nerve The patient promised to call on Dr Edwards in a few days, but saw, instead, another very competent oculist, under whose care for three or four weeks his vision cleared almost to normal Very soon thereafter his sight again declined to 20/60, with scotomata in parts of the visual field He still sees only well enough to read very large print, and that with much difficulty, on account of the scotomata. He practices his profession, but is very much handicapped, his wife being obliged to assist him in his legal work Investigation developed that the "bay rum" in this prescription with which he was poisoned, was put up by a firm in Buffalo, N Y, and made of Columbian spirits

Case 18—(From Dr W E Driver, Norfolk, Va)

J B, male, white, age 25, U S sailor, brought July 12, 1898, from the U S Naval Hospital, by the surgeon in charge He gave the following history One week since the patient and two of his companions, who were in charge of a naphtha launch, indulged freely in the wood alcohol used in starting the engine He and his companions were made desperately sick, and he became totally blind

The pupils were widely dilated, but there was no visible pathologic change in the fundus The diagnosis was wood alcohol amblyopia Treatment was potassium iodid, ten grains three times a day at first, increased doses later July 16, 1898, pupils still widely dilated Had something more than light perception in each eye Optic nerve, each eye, decidedly paler than at the previous visit July 23, 1898, decided improvement in vision of each eye Can now recognize large objects Both pupils widely dilated Eyes very bright Both optic nerves show decided pathologic changes, and very much whiter than at previous visit Dr Driver learned from the Naval Hospital that soon after the last visit to his office, the patient was discharged from the Navy and nothing further was heard of his case His two companions died during the debauch, from the effect of the intoxication

Case 19—(From Dr W E Driver, Norfolk, Va)

A H S, male, white, aged 25, came Feb 2, 1903 Referred to Dr Driver by Dr Holland of Holland, Va The patient became suddenly blind ten days before When he went to bed he could see as well as ever, on waking was totally blind Had been drunk from cider purchased from a country store.

Right eye Cornea very bright and glistening Pupil widely dilated Optic nerve pale, but no other pathologic change in fundus No light perception No reaction of pupil to light

Left Eye Cornea clear and bright Pupil widely dilated Nerve white No reaction of pupil to light

Diagnosis Wood alcohol amblyopia

Patient was sent to hospital and given potassium iodid, 10 grains three times daily, and twentieth of a grain of strychnin On February 9 vision began to return in left eye Has light perception No improvement in right eye. February 15, counts fingers one foot from left eye Light perception only in the right eye Optic nerve, each eye, decidedly paler than normal February 23 patient went home, with *no* improvement in the right eye, but counts fingers at three feet with left eye Nerve, each eye, white, bluish tint Pupils widely dilated Corneal reflex extremely bright

This man has consulted Dr Driver three times since he left the hospital the first time There has been no improvement in vision of the right eye With left eye vision is 6/200

Case 20—(From Dr William H. Dudley, Easton, Pa)

Ralph W, single, aged 30, an essence pedler, about June 15, 1903, took for a "cold," diluted with water, four ounces of what he says he bought for grain alcohol Two days later his vision became very bad, and when seen three months later his optic discs were quite white, fields were narrow vision 1/200 right and left Seven months later his condition remained practically the same Patient states that as soon as he had drunk the alcohol he discovered his mistake, realizing then that he had taken wood alcohol

CASE 21—(From Dr H P Engle, Newton, Iowa.) G F of Mingo, Iowa, aged 45, drank at least half a pint of Columbian spirits diluted He lived forty eight hours, but before death there were present gastrointestinal irritation, blindness, delirium and collapse

CASES 22, 23 and 24—(From Dr W H Ford, Sulphur, Ind Ter)

As detailed elsewhere in this report, four men, aged from 30 to 40 years, went on a spree with methylated bay rum Two, who consumed large quantities of the poisonous perfume, died There is no history of blindness in one case, but the other, S B B, age 24, who succumbed to the poison, lived about eighteen hours, and suffered the most excruciating pain in stomach and bowels Even though heroic doses of morphin, administered hypodermically, were given him he had to be held in bed He was totally blind most of this time About an hour before death his pulse became imperceptible at the wrist, his heart being very rapid all the time The odor of methyl alcohol was very noticeable in the perspiration, which was very profuse The two that survived, aged 20 and 37, suffered for some twelve to fourteen days with marked ocular disturbances Vision was very indistinct, it seemed at times as if they were 'looking through a moving screen" Again, in a few hours there would be a total loss of the outlines of objects After two weeks vision appeared to return

CASE 25—(From Dr P G Goldsmith Belleville, Ont, and Dr Sprague Stirling, Ont, and from the *North Hastings Reporter*, June 15, 1904)

William Sutherland of Monteagle met his death under very distressing circumstances on Monday night He had returned from working with the chemical company near Orillia and brought a bottle of wood alcohol with him to let his neighbors see it Not suspecting its poisonous nature he let some of them taste it Finding it too strong, they were all satisfied with merely tasting it But Sutherland, it is estimated, took about a wineglassful In a short time he complained of difficulty in breathing, then of blindness, and asked for a physician, who was sent for He soon lapsed into unconsciousness and died before medical aid could arrive Deceased was a respectable farmer about 45 years of age, and a widower, having two sons The sad event cast a gloom over the community

CASE 26—(From Dr A H Gordon and Dr Frank Buller, Montreal, Quebec)

B K aged 40, female domestic, alcoholic On Jan 18, 1904, had been drinking for two days Drank one quart of whiskey, a half pint mixture of gin and spruce gum, as well as nearly eight ounces of wood alcohol Vomited all one morning and in the afternoon became excited, partially delirious Complained of severe headache, pain in arms and fell to floor unconscious Later, general convulsion and death in half an hour after convulsion Half an hour before falling she groped about the room calling for light, evidently completely blind Pupils widely dilated and inactive The cause of death was undoubtedly the wood spirit drunk within twenty four hours of her death The autopsy showed no brain or kidney lesion

(*To be continued*)

An Aid to the Comfort of Bedridden Patients.—*American Medicine* says that in cases of severe heart disease with orthopnea it is often extremely difficult to keep the patient in the semi upright position as the direct pressure on the tuberosities of the ischium is not only uncomfortable but is conducive to bedsores, and there is also a tendency to slip down in the bed In such cases a hard bolster is placed under the mattress at the level of the thighs forming with the pillows a double inclined plane in the trough of which the back rests The support and the removal of a part of the weight from the tuber ischii to the fleshy part of the thighs affords great relief to the patient

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FATAL POISONING DUE TO SKIN ABSORPTION OF LIQUID SHOE BLACKING (NITROBENZOL)

WITH AUTOPSY REPORT

WILLARD J STONE, B Sc, M D
TOLEDO, OHIO

A report of the clinical and autopsy findings in the following case is of interest, first, because of its rarity, it being, so far as I have been able to ascertain, the only case recorded in which the fatal result could be attributed to skin absorption of this poisonous agent, and, secondly, since it reiterates once more the danger attendant on the use of the various cheap products of coal-tar distillation as solvents for the anilin dyes in certain commercially manufactured articles

Dr A W Wheeler and Dr Peter Donnelly have kindly furnished the clinical history of the case

History—W R, aged 22, male, salesman, in excellent health so far as could be ascertained, was taken suddenly ill in a café about 12 30 a m March 20 He had attended a dancing party earlier in the evening in company with some friends After the party he and four or five of his associates went to the café for a lunch His friends were with him during the entire time after he left his room earlier in the evening He remarked while in the café that he did not feel well, but his friends noticed nothing unusual about his appearance except that he seemed very pale In the café each one drank four or five glasses of beer While standing up to put on his coat, which one of the men present was holding for him, he suddenly seemed to faint and fell to the floor He was carried into an adjoining room, and a medical student who happened to be present dashed cold water in his face, which seemed to revive him He complained of no pain, but felt dizzy and faint and shortly after vomited the beer, crackers and cheese eaten but a few moments before He was assisted to a carriage, and arrived at his room at about 2 a m

A physician was not called until about 3 30 a m, since his roommate supposed him in a drunken stupor The physician, Dr Wheeler, was informed that he had passed into the comatose condition on arrival at his room about 2 a m, and that he had not recovered from it

Examination—Dr Wheeler found him in collapse, very pale skin, eyes glazed, cyanotic lips, ears and finger tips, corneal reflexes absent, no peculiar odor to breath, no convulsive tendencies, heart action fairly good, both sounds clear, pulse rapid, 130, skipping about one beat in 25, respiration 28 His friends were unable to throw any light on the cause of his condition, except that they thought him drunk

Death—After giving 1/30 strychnin and 1/10 apomorphin, Dr Peter Donnelly was called in consultation, but shortly after his arrival (4 45), a slight convulsion occurred, and with a sudden dilatation of the left pupil the heart stopped beating (not heard by auscultation or perceptible at wrist) Slight respiratory efforts continued for about five minutes, after which the patient died, in all, about four and one half hours after the fainting attack in the café

Autopsy—This was made by me about six hours later, March 20 Length, 71 inches, weight about 160, good muscular build, no scars or deformities, no signs of trauma or surgical wounds, skin and all visible mucous surfaces very pale, ear lobes and finger tips cyanotic, hair black, both feet discolored black to above ankles, resembling the crock of black colored hose, rigor mortis just beginning in jaw, no postmortem lividity of under surfaces, slight body heat present, no distention of abdomen, no edema lower extremities

Thorax Mediastinal tissue small in amount, lymph glands normal, no fluid in pleuræ, pericardial sac not distended, fluid normal

Heart Fatty covering normal, section muscle normal color, left ventricle wall hypertrophied, 20 mm thick, mitral valve admits two fingers, valve flaps thin, normal, aortic opening admits thumb, valves normal, coronary openings patent, traced to smaller ramifications, no thrombus or embolus, right heart normal, dark fluid blood and small mixed clot in right auricle, pulmonary artery traced to small ramifications, no embolus, thoracic aorta normal

Lungs Pleuritic adhesions both lungs behind and at apices, section, old scar right apex, anthracosis moderate, dark red in color, yields slight fluid on pressure, crepitant throughout, slight hypostasis lower lobes, bronchial lymph glands negative

Abdomen Omentum and peritoneum normal Stomach Ligated cardia and pylorus—removed entire Spleen 12 by 10 cm , capsule normal, dark red on section, follicles, pulp and connective tissue normal Liver Not enlarged, brown red on section, mottled appearance in areas, consistency normal, shows cloudy swelling, parenchymatous degeneration Gall bladder and ducts Normal, no calculi Pancreas Small, otherwise normal Adrenals, Normal, small Right and left kidneys Identical in appearance, large capsules strip off readily, do not drip blood on section, though they appear congested, dark red in color, cortex paler in color, congestion (?), parenchymatous degeneration, acute nephritis (?) Ureters Patent throughout Bladder Normal, 150 c c urine withdrawn by catheter for examination Duodenum Small intestine and colon normal, serosa not injected Appendix Long, free entire length, contains small, hard concretion

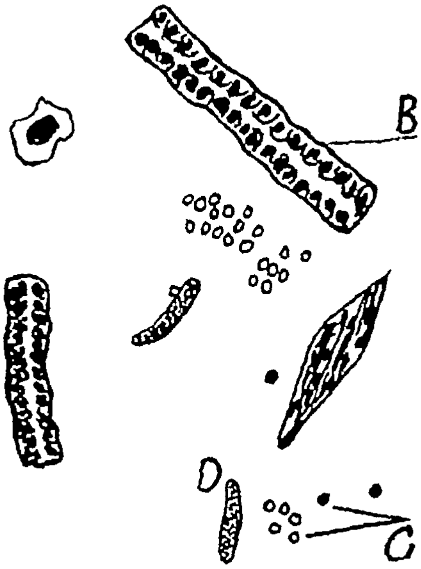

Fig 1 —Camera lucida Acute desquamative nephritis from nitrobenzol (Zeiss, oc 4 obj A A) A True epithelial cast of medium sized tubules B True epithelial cast of larger tubules C Red and white blood cells D Fine granular cast.

Brain Meningeal vessels congested Internal capsule normal Vessels traced to finer branches, no embolus or hemorrhage Ventricles normal Basal sinuses, cerebral ganglia peduncles, circle Willis, cerebellum, pons and medulla, normal

Stomach contents About 40 c c opaque, rather thick, dark red fluid Absence of free HCl to Congo red and di methyl amido azo benzol papers Sour odor Microscopically, much amorphous débris, cellulose fibers *en masse* (crossed striation), many finer cellulose particles Many fat globules, large and small, many small non motile bacilli, few shreds gastric mucosa (columnar celled), no crystals of any kind seen Negative guaiac test for blood

Urine Amount withdrawn by catheter, 150 c c , specific gravity, filtered urine, 1013, reaction, acid, heat plus HNO_3, slightly positive, acetic acid plus potass ferrocyanid, positive, Fehling's, negative, Nylander's, negative Microscopic examination Many white (see illustration), and red blood cells, many finely granular casts (medium size) many larger hyaline and leucocyte casts, few very large epithelial casts of the larger tubules (about one in every two fields with low power) bladder epithelium and spermatozoa (death phenomenon)

Microscopic examination of liver Congestion slight cloudy swelling (parenchymatous degeneration) and fatty degeneration quite general throughout sections, necrosis in areas

Microscopic examination of kidneys Stained in eosin hematoxylin and Van Gieson Cloudy swelling (parenchymatous degeneration), general throughout sections Necrosis in areas Much débris in larger tubules Partly exfoliated epithelial lining of tubules in many areas

Diagnosis —Acute desquamative nephritis and acute hepatitis (toxic?)

Etiology —Subsequent inquiry four or five days later into the circumstances surrounding the death by the coroner, Dr C Storz, revealed the following facts The young man had purchased, a few days before his death, a pair of shoes at a sale being advertised in the city These shoes were black patent leather lowers with cloth tan tops On the evening of the dance above mentioned he had applied a liquid shoe blacking, made in Chicago, to the tan cloth uppers of the shoes These shoes were worn that evening The cloth uppers absorbed enough of the blacking to entirely cover up the tan color, and, moreover, since the shoes were put on before the tops were dry, to stain his feet and ankles black

The coroner found in the man's room part of the bottle of blacking used and also the shoes Both the shoes and blacking emitted a strong odor, not unlike oil of bitter almonds, the shoes having this odor a week after death A portion of the blacking and the shoes were turned over to City Chemist G A Kirchmaier Through his kindness I am able to append his report

Chemical Examination —About three drams of liquid shoe blacking was received from the coroner Suspecting nitrobenzol from the odor, the blacking was distilled after adding H_2SO_4, according to the method of Jacquemin[1] To the distillate zinc and H_2SO_4 was added to reduce to anilin, after which the liquid was treated with excess of sodium carbonate and filtered On the addition of a drop of carbolic acid and then some sodium hypochlorite a brown coloration, rapidly changing to blue, appeared, due to formation of sodium erytrophenate, and which indicated the presence of nitrobenzol The amount of pure nitrobenzol obtained was nearly as much as the total amount of blacking received from the coroner The shoe tops were also extracted with solvents and marked traces of nitrobenzol obtained

Reinsch's test for poisonous metallic salts was applied to stomach contents with negative results

Nitrobenzin (or nitrobenzol $C_6H_5NO_2$) was discovered by Mitscherlich in 1834 Casper,[2] cited by Blyth, first called attention to its poisonous properties Its importance as a commercially used article lies in the fact that it is a cheap solvent for the various anilin dyes and that it is used as a flavoring or odoriferous agent, under the name "Essence de Mirbane," in cheap perfumes soaps and confections Nitrobenzol is an intermediate product between benzin a constituent of coal-tar, and anilin It is in reality formed from the action of nitric acid on benzin ($C_6H_6+HNO_3=C_6H_5NO_2+H_2O$) and anilin the next step in the process, is formed direct from nitrobenzol (Allen[3] and Lloyd[4])

Pure nitrobenzol is a pale yellow liquid, having an odor closely resembling that of the essential oil of bitter almonds It differs, however, from that body in many respects the oil of bitter almonds being benzoic aldehyd (C_7H_6O)

SYMPTOMS

Jubell[5] collected, between 1848 and 1876 42 cases of poisoning by nitrobenzol 13 of which were fatal R

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[1] Jour Pharm Chim 4 vol xvii p 375

[2] Casper Vierteljahrsschrift f Ger Med vol xvi s 70 1859

[3] Allen Commercial Organic Analysis vol ii p 478 1887

[4] Lloyd Twentieth Century Practice vol iii p 400 1895

[5] Jübell Die vergiftungen m Blausaure u nitrobenzol in Forensischer Beziehung Erlangen 1876

Bachfeld,[6] cited by Gould,[7] has collected 63 poisoning cases by anilins and benzols. He concludes that there is danger of poisoning if clothing soaked with anilin or nitrobenzol remains in contact with the body. Nitrobenzol is a powerful narcotic poison, whether taken in the form of vapor or as a liquid. The fatal dose for an adult is probably about 1 gram, although numerous examples exist of serious poisoning by much smaller doses. The quantity which would be fatal if breathed is not known with any accuracy. Husemann[8] mentions several cases of poisoning associated with the symptoms stated by the various authors mentioned as common to all: 1, fainting; 2, cyanosis, and 3, coma. A case cited by Taylor[9] is typical:

> A woman tasted a liquid used for flavoring pastry (it was afterward chemically identified as pure nitrobenzol). She immediately spat it out, swallowing probably not more than a drop. In replacing the bottle about a tablespoonful was spilt. As it was a small room the vapor rapidly permeated the atmosphere in it, and caused illness in herself as well as in a fellow servant. In about three hours, when seen by a physician, she showed symptoms of prussic acid poisoning. The features were pale and ghastly, skin clammy, lips and nails cyanotic, pulse feeble but mind clear. She became suddenly unconscious a few moments later, consciousness returning in eleven hours. Recovery not complete for weeks.

This case is exceptional, since recovery in instances where coma has developed is very rare.

Blyth[10] states that the symptoms are almost identical with prussic acid poisoning, except that in nitrobenzol poisoning there is a much longer interval between taking the poison and its effects. "This is, indeed, the strangest phenomenon of nitrobenzol poisoning, for the person taking it may appear well for periods varying from fifteen minutes to three hours, or even longer, and then there may be the most alarming symptoms, followed by coma and sudden death." (Note similarity to the present case, also Dr. Collamore's case below.)

Cases vary but little in their main features; in a few the blue skin and deep sleep are the only symptoms noted. This, of course, is quite typical for excessive doses of any of the coal-tar products, i. e., antipyretics, naphthalene yellow, metanil yellow, orange II or picric acid combinations. These latter have been used as constituents of butter color along with anilin yellow (dimethyl-amido-azo-benzin), and from the use of which several fatal poisoning cases have been recorded.

Nicholson[11] reported a case of fatal poisoning by liquid nitrobenzol. He stated also that the vapor from "almond glycerin soap" had caused in a friend of his who used it while taking a warm bath symptoms of mild poisoning (fainting and illness for some time afterward). It would seem that the circumstances surrounding this last case were favorable to skin absorption of the poisonous agent and that the symptoms of poisoning which followed could be attributed to absorption in such a way.

Dr. G. A. Collamore, Toledo, about ten years ago attended a man who, when intoxicated, touched a small bottle of nitrobenzol to his lips under the impression it was whisky. The accident happened in the home of a local soap manufacturer, who had brought the stuff to the house from the factory and deposited it on the mantel because it imparted a pleasant (sic) odor to the air of the room. Shortly after, the man became unconscious and was cyanotic. After twenty-four hours he regained consciousness and insisted on returning to his work, though still cyanotic. He died suddenly while attending to work twenty-four hours later. The skin was dark colored and the breath exhaled the odor of bitter almonds.

Letheby[12] relates the case of a man who spilt some considerable quantity on his clothes. For several hours afterward he went about breathing an atmosphere of nitrobenzol. He then became drowsy, expressionless, and, with unsteady gait, presented the symptoms of intoxication. The stupor suddenly developed into coma and the man died, the fatal course being altogether nine hours, i. e., four hours before coma and five hours of total insensibility.

The first symptoms usually are headache, drowsiness, flushing of the face (which is shortly followed by extreme pallor, with cyanosis of the ears, finger-tips and lips), dyspnea (not present in the case under consideration), dilation of pupils, loss of voluntary power, and sometimes convulsions. These symptoms are followed by coma, which usually appears suddenly and increases in intensity till death ensues in five or six hours. When the stage of coma is reached there is but little chance of preventing a fatal termination (Allen). Death is usually stated to be due to paralysis of the respiratory centers. In the present case death was evidently caused by paralysis of the circulatory centers, since the heart stopped beating about five minutes before respiratory efforts were discontinued.

POSTMORTEM FINDINGS

It is such an insidious narcotic poison that indications pointing to severe irritative action on stomach or bowels—when swallowed—are usually absent. The kidneys and liver may show extensive parenchymatous degeneration, as in the present case, this being probably mere evidence of the attempted eliminative process on the part of these organs. The changes are, however, no different from the action of many other actively poisonous agents. When swallowed the breath may give off an odor resembling the oil of bitter almonds. Filehne[13] states that the blood gives the spectrum of acid-hematin. A dark brown to black color of the blood has been noted in some cases—the blood not being coagulated.

Cushny[14] says that the oxygen-carrying power of the hemoglobin, when combined with nitrobenzol, seems to be lost. Its carbon dioxid is also decreased. With the spectroscope methemoglobin has been found, although in two cases—not fatal—cited by Huber[15] the blood was chocolate colored, but gave in both instances normal blood and spectroscopic tests. An absorption band which does not seem to correspond to any of the usual hemoglobin products, often appearing between the yellow and red, has been noted in several cases. It has been designated the nitrobenzol-hemoglobin line.

Weyl[16] mentions that sugar is found in the urine in nitrobenzol poisoning, although in the present case (and in Huber's cases, mentioned above) no reducing substance was present which reacted to Fehling or Nylander solutions.

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[6] Bachfeld: Vierteljahr. Gericht. Med., 1898.

[7] Amer. Year Book Med. and Surg., 1899.

[8] Husemann: Jahresbericht, s. 531, 1872.

[9] Taylor: Poisons, 3d ed., p. 665.

[10] Blyth: Poisons—Their Effects and Detection, vol. i, p. 102, 1887.

[11] Nicholson: Lancet, Feb. 1, 1862, p. 135.

[12] Letheby: Royal Soc. Reports, 1863.

[13] Filehne: Ueber d. Giftwirkungen d. nitrobenzols, Arch. f. Exper. Path. u. Pharmakol., vol. ix, p. 329.

[14] Cushny: Pharmacol. a. Therapeut., p. 411, 1899.

[15] Huber: Giftwirkungen d. nitrobenzols, Virchow's Archiv, vol. cxxvi, 1891.

[16] Weyl's Monograph: The Sanitary Relation of the Coal Tar Colors, by Leffmann, 1892.

TREATMENT

Since death occurs from narcotic action, with subsequent paralysis of the respiratory and circulatory centers, in this as well as in poisoning with other coal-tar anilin preparations, a prompt emetic should be given or the stomach tube used The stomach tube should be used, since, as in the case of morphin, the possibility of the drug being excreted into the stomach and bowels should be borne in mind An effort should be made to ward off the impending coma, constant exercise, flaggellation with wet towels and rubbing being employed Hypodermically, atropin 1/100 to 1/60 gr and cocain 1/4 to 1/2 gr might be used for their stimulative action on the respiratory and cardiac centers Evidently the process of elimination is attempted by the kidneys (as in the present case) and possibly also by the bowels Large quantities of hot normal salt solution per rectum or intravenously would undoubtedly assist in this process The depressant action of and danger attending the use of pilocarpin to assist elimination by the skin, in cases of already depressed circulatory activity, would seem to be contraindicated because of the danger of pulmonary edema

CONCLUSIONS

This case reiterates the danger of the promiscuous use of nitrobenzol by manufacturers How they are able to prevent poisoning among the workers in their factories is somewhat of a mystery Its use should be still more strenuously prohibited as entering into the composition of liquid shoe blacking, cheap soaps, confections and similar articles of widespread usage The conditions present in this recorded case were unfortunately such as to permit of absorption by the skin The shoes were put on before the blacking was dry, and shortly afterward the exercise incident to the dancing party probably aided its absorption Nitrobenzol is probably used as a solvent for the anilin dyes in many liquid shoe-blackings on the market The reason that the small boy shoeblack is not more frequently poisoned lies in the fact that but a very small quantity of the liquid comes in contact with his fingers, brushes being used instead while the fingers are usually used for the application of the "polish" The "polish" is probably an anilin-black in most cases and probably contains nitrobenzol as a solvent Why fatal poisoning is comparatively so rare among shoe-blacks is not quite clear Perhaps but extremely small quantities are absorbed and that this absorption extends over a considerable time

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SPLENECTOMY FOR SPLENIC ANEMIA

J H CARSTENS, M D

DETROIT

Splenic anemia is a distinct variety of anemia, and entirely different from the various conditions characterized by enlargement of the spleen and classified under various names The distinctive features are enlargement of the spleen without enlarged lymphatics, evidence of pigmentary deposits, and if long continued, disturbance of the liver and ascites So far as etiology is concerned nothing definite is known

The special features of the condition are 1, Slight diminution in the number of red corpuscles, 2, reduction in hemoglobin and 3, a most remarkable reduction in leucocytes This last seems to be the pathognomonic condition

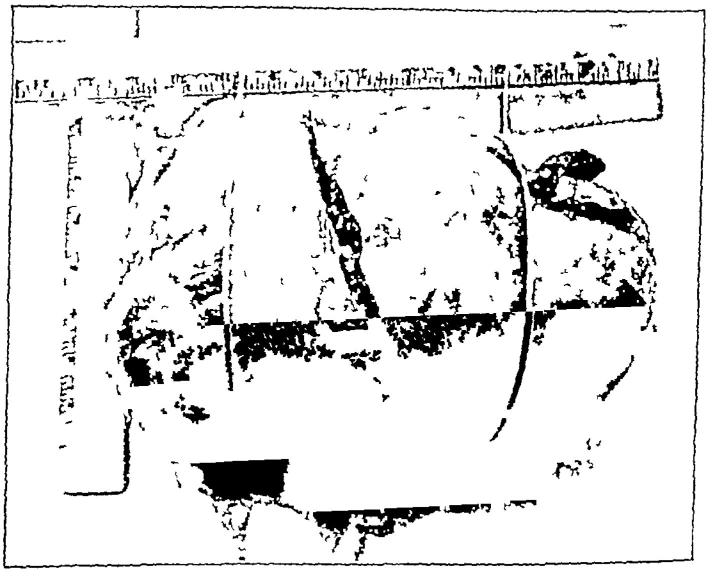
H C Wood[1] first described this in 1871 He says "I now desire to show that there is still a third form of pseudoleukemia, a splenic variety Under the names of tumor of the spleen, splenic cachexia, etc, medical records furnish accounts of cases which I believe represent this affection" Griesinger, in 1866 describes a case in a child and called it anemia splenica, although it has since been shown that enlargement of the spleen in children is different from that peculiar enlargement found in adults

Sippy has given us an excellent resume on the subject and reported in full a case which ended in death He gives all the blood examinations and careful microscopic examination of the spleen with illustrations

Osler, in two papers, reports 18 cases, some of them having extended over a period of many years, the patients being in fairly good condition Harris has also reported quite a series of cases

My case is as follows

History—Mr B, aged 38, had always been well until last winter, when his abdomen began to enlarge He became weak and pale, digestion was poor and he was unable to work Various remedies were tried without much benefit The enlargement of the abdomen increased until it reached the symphysis, crowding the abdominal viscera toward the right It was diagnosed as an enlarged spleen He was brought to me by Dr Peterson of Ruth and I had his blood examined by Dr Sill of the Detroit Clinical Laboratory The report is as follows



Spleen removed by Dr J H Carstens

Blood examination—Erythrocytes	3 804 000
Hemoglobin	75 %
Color index	0 94 %
Leucocytes	1 250
Polynuclears	10 %
Mononuclears	90 %
Eosinophiles	

There was a marked reduction in the number of leucocytes and an enormous increase in the proportion of the lymphocytes The red cells showed no degeneration

Operation—July 21 An incision was made along the outer edge of the left rectus a large incision being necessary on account of the size of the growth I found some slight adhesions of the omentum but otherwise no complication The spleen was very soft, almost like jelly In trying to lift it out of the wound I turned it a little so that the apex would come out first It broke and a severe hemorrhage occurred which was controlled by clamping the pedicle I removed the spleen ligated the blood vessels separately and then the pedicle There was one vein the size of an ordinary pencil Several bleeding points in the omentum were ligated the abdominal cavity washed out and the wound closed He was given an enema of two quarts of saline solution and put to bed

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[1] American Journal of Medical Science

During the first few days there was a temperature varying from 99 to 101 degrees, with the pulse 120 On the 26th the temperature went higher, and a blood examination made by Dr Edmunds showed leucocytes 11,000 On the 29th temperature went up to 105 degrees, pulse 132, and the increase of leucocytes indicated sepsis

REPORTS BY DR C W EDMONDS

July 28—Reds	2 745 000
Leucocytes	11 204
Mononuclears	27 %
Polynuclears	73 %
Hemoglobin	70 %
July 29—Reds	2 019 200
Leucocytes	1 077
Mononuclears	18 %
Polynuclears	82 %
July 30—Leucocytes	4 777
Mononuclears	19 7 %
Polynuclears	80 3 %
July 31—Leucocytes	4 526
Polynuclears	85½ %
Mononuclears	14 %
Eosinophiles	½ %

August 26 I removed the dressing and examined the abdominal incision, which had been closed with sterilized catgut I found a red spot which indicated a stitch abscess This was opened and a small quantity of pus removed The leucocyte count again dropped He had been irrational for a day or two, and one night in the temporary absence of the nurse, he got up and walked around the room He was put to bed and a restraining sheet applied The next morning, during a violent effort at coughing, something gave way and on examining him I found that the edges of the abdominal wound had separated and the intestines were protruding An anesthetic was administered, the abdomen thoroughly washed out and the incision closed with silkworm gut sutures

Results—His recovery after this was rapid and uninterrupted He developed a voracious appetite, his mind became perfectly clear, and he returned home four weeks after the operation perfectly well A few days after sewing the abdomen I had another count of his blood made and the report by Dr Sill was as follows

August 1—Erythrocytes	4 128 000
Hemoglobin	60 %
Color index	0 75 %
Leucocytes	2 600
Polynuclears	77 77 %
Mononuclears	22 23 %
Eosinophiles	

In comparison with previous examination the blood showed a marked change The red cells had increased, but the hemoglobin had dropped in percentage There was an increase in the number of leucocytes with a startling change in the proportion of the varieties the polynuclears regaining their normal proportion

The spleen weighed fourteen pounds The pathologic examination of the growth made by Dr H Gibbs, is as follows

Examination of Tumor—Hyperplasia of splenic tissue without increase in the capsule or trabeculæ The whole tissue is infiltrated with blood, in some places amounting to extravasation There is no appearance of malignancy

Further blood examinations were made occasionally by Dr F Edmunds as follows

August 8—Reds	[illegible] 000
Hemoglobin	65 %
Leucocytes—	
Mononuclears	28 %
Polynuclears	71
August 12—Leucocytes	[illegible]
Polynuclears	71 1/3
Mononuclears	18 1/3
Eosinophiles	1/7
Hemoglobin	70 %

The peculiarity of the blood in these cases is the very small number of leucocytes That seems to be distinctive of splenic anemia, but the most remarkable change was 10 per cent polymorphonuclears and 90 per cent mononuclears before he was operated on, while ten days after the operation the proportion was nearly normal

In order to throw more light on the subject I asked him to come for another blood examination He came and eight months after the operation the blood report, by Dr Joseph Sill, is as follows

Date received April 5—Erythrocytes	5 448 000
Hemoglobin	100 %
Color index	1 0
Leucocytes	9 250
Polymorphonuclears	58
Mononuclears	42 %
Eosinophiles	

This specimen of blood was practically normal

Beside this the man's appearance was remarkably improved I did not have him weighed when he arrived at the hospital but when he left he weighed 97 pounds, and the day the last blood examination was made he weighed 193 pounds, was the picture of health and in every way well, except having a slight bulging at the line of incision, and hence was incapacitated for hard physical labor

SUMMARY

1 Splenic anemia is a distinct variety of enlargement of the spleen

2 It can be diagnosticated by blood count, which shows an abnormal and small number of leucocytes It is, as a rule, slow in its development, and is but slightly relieved or retarded by treatment

3 Splenectomy seems to offer the only chance for a permanent cure

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X-RAY THERAPY IN LEUKEMIA

A PRELIMINARY REPORT WITH SPECIAL REFERENCE TO LYMPHATIC LEUKEMIA

JOSEPH A CAPPS, M D, AND JOSEPH F SMITH, M D, CHICAGO

EDITOR'S NOTE The article with the above title in THE JOURNAL, Sept 24, 1904, page 891, was marred by the inadvertent omission of the accompanying table The readers of the article easily recognized the fact that something was omitted, as the table was referred to in the article

CASES OF LEUKEMIA TREATED BY THE X RAY

Case No	Type	Acute or Chronic.	Effect of the X Ray on			Time of Observation under X Ray	Present Condition
			Spleen	Glands	Leucocytes		
1*	Spleno-Myelogenic	Chronic	Enormous mass reduced to small size Recurrence	None	261,000 to 10 000 Recurrence 230,000 to 9,400	18 months	Dead
2	Spleno-Myelogenic	Chronic.	Much reduced	None	409 000 to 46,500	12 weeks	Improved
3	Lymphatic	Subacute	Much reduced	Reduced nearly to normal size	70,500 to 25 000	10 months	Dead
4	Lymphatic	Subacute	Not noticeable	Not noticeable	80,000 to 64 500	6 weeks	Dead
5	Lymphatic	Acute	Not noticeable	Not noticeable	69 000 to 299 000	10 days	Dead
6	Lymphatic	Chronic	Reduced	Much reduced	208,000 to 48,300	16 months	Dead
7	Lymphatic	Chronic	Reduced	Much reduced	150 000 to 4,200	5 months	Improving
8	Lymphatic	Chronic	Reduced nearly to normal size	Reduced nearly to normal size	295 000 to 6,800	8 months	Improving

*Case previously reported by Dr Senn

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THE VALUE OF CYTODIAGNOSIS IN DISEASE OF THE CENTRAL NERVOUS SYSTEM

During the last two years a number of articles have appeared, particularly in journals devoted to neurology, dealing with the so-called cytodiagnosis. This procedure, which is a natural outgrowth of the differential blood count, consists of a differential count of the cells in an inflammatory exudate, or in one of the natural secretions of the body, as the cerebrospinal fluid. The introduction of a test of this sort is almost invariably followed by a certain number of articles based on an insufficient number or an insufficient variety of cases, and as a result of this false though often very attractive conclusions are reached, and too many of us are too apt to accept the various claims set forth for new methods without the necessary saline flavoring.

In the case of cytodiagnosis, the most work has been done on the central nervous system by staining centrifugalized cerebrospinal fluid withdrawn by lumbar puncture. It is in diseases of the central nervous system that the procedure has been claimed to be of the greatest value. The main claims, briefly stated, of the majority of French, German and American writers, have been that an increase in the lymphocytes in the cerebrospinal fluid is pathognomonic of a meningeal irritation and that such an increase is characteristic of the early stages of general paresis and tabes dorsalis and of cerebrospinal syphilis.

In a recent article,[1] Niedner and Mamlock have drawn attention to some of the fallacies which are apparent in the technic and in the interpretation of the results of cytodiagnosis as it is now done. As these observers point out, if we are to compare the results of different workers with a test of this sort it is necessary to base all observations on a common technic, and so far this has not been done. A measured quantity of the fluid should be taken, it should be centrifugalized in a centrifuge having a given number of revolutions per minute, and should be left in the centrifuge for a given length of time. Further, the method of making spreads, and the method of staining should be uniform, and the technic as a whole should be as simple as possible. The present lack of uniformity of technic makes it difficult if not impossible to compare the results of different authors, and leads different observers to give different figures as normal. Thus French observers state that three or four lymphocytes in a microscopic field with a magnification of 400 diameters represent the normal, while certain German observers, as Merzbacher, state that under similar circumstances six to eight lymphocytes in the field are normal.

Up to the present the common conditions in which an increase of the lymphocytes in the cerebrospinal fluid has been observed have been general paresis, tabes, and syphilis of the nervous system. Occasionally such an increase has been found in other conditions, as herpes zoster, sciatica and parotitis. On the other hand, it has generally been stated that in functional neuroses, epilepsy, senile hemiplegia, cerebral tumor and compression myelitis no increase in the lymphocytes takes place. Niedner and Mamlock studied a large series of cases from von Leyden's clinic to determine whether they could substantiate the reported findings. They conclude that an increase of lymphocytes in the cerebrospinal fluid is not necessarily associated with parasyphilitic affections (tabes, general paresis), but that it may be due to any cause producing sufficient irritation of the meninges which lasts a certain length of time. Thus it may be due to intoxications (lues, uremia, tetanus), or to mechanical irritation from tumors or other mechanical factors causing cerebral pressure.

Simple irritation of the meninges from injury or disturbances of the circulation is not in itself sufficient to cause an increase in the lymphocytes. As to the value of the test, the authors state that they feel somewhat disappointed. The frequent appearance of lymphocytosis in lues, and its not infrequent absence in tabes, make its value in the latter disease rather problematical. While the test may be of some value in general paresis, as the lymphocytosis here is quite constant, still the diagnosis in these cases is so seldom in doubt that the test is rather a superfluity than an aid. The impression received by the work of Niedner and Mamlock is that the test has been very much overrated in the articles so far written.

PSYCHOPATHIC HOSPITALS AND CLINICS

One of the disadvantages with which American alienists have had to contend in the past has been the inability to study and treat the acute insane and milder grades of psychoneuroses under such advantageous conditions as the surgeon and physician enjoy in caring for medical and surgical cases in city hospitals. The acute insane are sent to large state asylums as soon as legal commitment is possible, and the psychoneuroses have never been properly provided for in city clinics. They are not admitted to general medical and surgical hospitals. Strangely enough, they are not often regarded by the admitting authorities as sufficiently ill to require hospital treatment. American cities have as yet provided no special hospital for the proper care of neurologic cases other than a few infirmaries in connection with almshouses The usefulness, even of such provisions, has obviously been sacrificed by the nature of the associations and surroundings of such hospitals

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[1] Zeitschrift für klin. Med., vol. liv, Nos. 1, 2.

However, it looks more promising for the future Ann Arbor and Albany already have their psychopathic wards The last New York legislature appropriated several thousand dollars for a psychopathic hospital for New York City, and plans of construction are now in preparation It is interesting to note with what singleness of purpose well-meaning reformers put in operation the state care of the insane They seem to have entirely overlooked the various economic, therapeutic and scientific principles which were sacrificed in transporting all the insane from the towns and cities into large and only too often inaccessible country district asylums On the continent of Europe the mistake of caring for the insane so far from their homes was recognized early and was in process of correction long before the state-care movement had become at all general in this country Thus in the early sixties Griesinger pointed out the urgent necessity of forming small city hospitals and out-clinics for reception and treatment of the acute insane, to supplement the workings of the large district asylums for the chronic cases which were situated quite remote from the populous centers Its general adoption soon followed Germany preceded us therefore by at least two decades in establishing this type of hospital for the acute insane and psychoneuropathic

Out-clinics or dispensaries have been in successful operation for several years in the German psychopathic hospitals, indeed, the great majority of the so-called functional neuroses, such as hysterias epilepsies, chronic neurasthenics and the like, have been treated in this manner Their ratio in the psychopathic hospitals at Giessen and Kiel has steadily increased In the first year's opening of the hospital at Giessen in 1896, 6 5 per cent of the total number treated in the dispensary and wards were of the psychoneuropathic class In five years it increased to 23 per cent

In this country the lack of proper facilities for diagnosis and treatment of such cases in general neurologic clinics has often been commented on Clark and Montgomery[1] have included these essential out-clinic departments in their suggested plans for psychopathic hospitals in American cities They have arranged ample out-clinic provisions for diagnosis and treatment by electricity, hydropathy, mechanicotherapy, massage and systematized movements Out-clinics of this kind would be of inestimable value for selection of proper cases for in-ward treatment They would reduce the fear with which the general public regards such hospitals They would also result in lessening the necessity for so many private sanatoria which, for economic reasons at least, are only too often impossible for the poor

THE PASSING OF PRIMITIVE MAN

The disappearance of primitive man before civilization has been recently discussed in an interesting manner by Dr F A Cook[1] He says that alcohol and venereal diseases have been largely credited with the result, a conclusion which he questions, though he admits his observation has been limited to the sub-Polar races, the Fuegians Patagonians, Eskimos and sub-Arctic Indians He is inclined to credit as an important factor the lack of immunity of these races to the diseases of civilization which, to civilized man, have, from long familiarity, become comparatively innocuous The part played by such disorders as measles, mumps, whooping cough and scarlet fever in the destruction of primitive man, was to him a great surprise Even chicken-pox is a fatal epidemic among the Eskimos, and even more severe among adults than among children The infant mortality among the Indians is very great and this he attributes to the introduction of new diseases by explorers, traders and missionaries Alcohol and venereal diseases come second Lastly, he considers the destruction of savage ambition and altered conditions of life and environment as important factors leading to physical degeneration, and making the savages ready subjects for tuberculosis

There is undoubtedly considerable truth in these conclusions They may certainly be accepted as the deductions of a careful and trained observer in a comparatively limited field Many will think that he underestimates the influence of alcohol as a cause of degeneration and fatality There would be little difficulty in exterminating many native tribes by free trade in intoxicants during their hunting season with the consequent results of improvidence and later famine Such a condition of affairs occurred some years ago on St Lawrence Island There is undoubtedly a great deal of truth in his theory of lack of immunity, and this would be an interesting study could it be taken up over a wider field by competent observers If we could exterminate tuberculosis for many generations and then admit the infection, we might have a similar experience of our own

The influence of changed environment and of contact with a higher grade of civilization generally, unattended by a higher grade of morals is also probably underestimated by many observers We can imagine, perhaps, a similar demoralization occurring in our own race were the presence of a vastly superior class of beings without moral restraint suddenly thrust on us Mr Wells' fantasy of the "War of the Worlds," even without the active extermination he portrays, would probably soon be more than realized There is a vast difference, however, as regards racial vitality in uncivilized man, and, in some sections, with special conditions, primitive man is capable of existing and even flourishing in spite of the demoralization and disease introduced by contact with the whites Thus in the tropics the partial immunity toward malaria of some of the colored races is apparently an adequate defense, and among the Eskimos we might look for a similar partial immunity to evils of crowding and non-ventilation This may account for the fact reported by Nansen, who has observed that while tuberculosis is not uncommon among the semi-civilized Greenland Eskimo, it is by no means always a rapidly fatal disease with them, but may exist in a readily recognizable form for years without seriously interfering with their ordinary activities and pursuits, and this notwithstanding the exposure that these involve

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[1] Suggestions and Plans for Psychopathic Wards, Pavilions and Hospitals for American Cities, by L. Pierce Clark and H P Alan Montgomery American Journal of Insanity vol lxi No 1 1904

[1] Brooklyn Medical Journal September 1904

Primitive man, however, is rapidly disappearing under all these causes and unfavorable conditions that have been mentioned, together with many others, in most parts of the world The desirability of careful medical studies among primitive people is, therefore, the more imperative There is a field of study here which has been too much neglected, and in many cases the opportunity is forever lost It is to be hoped that medical explorers and even non-medical ones will give it their future attention It may be that such a study thoroughly carried out would lead to some valuable practical deductions as regards the warding off of disease among civilized races as well

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THE GROWING NECESSITY OF COLLEGE TRAINING PREPARATORY TO MEDICAL STUDY

For the young man who is planning to fit himself for the practice of medicine there are two possible routes One, the longer but admitted by all to be more nearly the ideal, involves the intervention of a greater or less length of time between the completion of the high-school course and the actual assumption of medical study, to be spent in attendance at some college or university, the other is the short cut from high school to medical school, which is recognized as practical by a large number of eminently well-conducted medical schools, although their number is steadily decreasing There can hardly be a question as to which is the better route The question that does arise in the minds of many is, however, does it pay to give up from two to four years to college work which, in large part, may have no direct bearing on the study or practice of medicine?

There are two things that are to be obtained in a college course One is the acquisition of certain knowledge, and this is, perhaps what the majority of people consider the chief function of any educational institution The other is the social training, the habit of contact with people of rather better than average bearing and education the broadening of prospect, and the development of ideals, and it is these less material profits of college education that those most familiar with the subject will insist are really the most important In the nature of things a medical school must be given over almost entirely to the first matter—the imparting of information The curriculum of every school is so crowded that there is little opportunity for anything but hard work, and the student's mind has little time for play on any but the topics of his work The hours for social contact are few, the instruction afforded is essentially narrowing, and the desire for hospital appointments and other immediate rewards holds the attention of the student fast on the one subject The intensity of concentration and the eagerness for new information that is so characteristic of the medical student is brought out very strongly in those institutions in which medical and undergraduate students occupy the same buildings and grounds Therefore, the medical student seldom gets much social advantage from contact with his fellow-students, and still less from the faculty, as a rule, and the student who has entered medical work in the immature condition of the high-school boy is bound to lose altogether this benefit that is conferred so well by the college To be sure, there are some of the most broad-minded, cultured and estimable of the members of our profession who have had never a moment of undergraduate life in their career—some who have not even had a high-school education but these are brilliant exceptions Most of us must get our polish through contact Furthermore, it will be generally found that these are the very men who regret the lack of a college education most of all With the rapid increase in the number of colleges and universities throughout the country, and the great growth among them all, the proportion of college-bred men and women in every community is rapidly increasing, and already they form a very considerable proportion of the generation with which the present-day medical student will live It is certain that these college-bred people holding the positions of trust and influence in their several communities, will constitute that portion of the society to which the physician will naturally look for his companionship and associations, and the mere holding of a degree and a title without the necessary breadth of education and culture behind it will not of itself make him acceptable to them Success consists of a good deal besides a large income and a professional man who is not socially recognized is seldom happy No one would be so foolish as to insist that a college education is the *sine qua non* of social and mental success, but we know of no other aid that is so great or so satisfying in after years

As for the advantages of the college training in the way of the addition of knowledge, there is much that could be said bearing on the relation of a full training in literature, economics and history to breadth of character and the formation of ideals, but there are also many other things of immediately practical nature First of all should be mentioned the study of French and German without a reading knowledge of which no student should be at the present day Then there are the fundamental conceptions of biologic science and also geology and paleontology which afford such excellent foundations for the study of human biology and development which every student needs, but which he can not possibly get elsewhere than in college But of most immediate concern to the teacher in the medical school is the training in methods of laboratory study High-school laboratory work, when it exists at all, can give little training that is of the same type as should be demanded of every medical student, and affords little conception of the real meaning of the words science and research Put together in the same laboratory two students, one of whom has had but a high-school preparation while the other has taken laboratory courses in the sciences in any good college, and the high-school student is of necessity handicapped from the start

THE DIPLOMA MILL BUSINESS

According to the newspapers, not less than 20,000 people are labeled doctors of laws letters, science or theology by diplomas bought from a young man named Farr who is in his corporate capacity half a dozen or more colleges and universities entitled to issue diplomas giving high-sounding degrees If one individual can be all this and distribute 20,000 doctorates up to date, what is the output of the numerous competitors the Buchanans the Armstrongs the Proberts and all of that ilk who are also in the business? The prospect seems to be that every fool who can spend ten dollars more or less may become a doctor of some sort or other Unearned honors coming cheaply are always in demand by a certain class Fortunately, in most of the states now there is a legal restriction on medical degrees, and imperfect as the law often is it is far better than it has been

WOOD ALCOHOL

At the session of the American Medical Association held last June the House of Delegates unanimously adopted the following preambles and resolution

WHEREAS The employment as beverages of wood spirit or methyl alcohol and its various preparations is known to have been responsible for numerous deaths and many cases of blindness in this country during the past few years and

WHEREAS, Even the breathing of confined air charged with the fumes of this form of alcohol has been shown to produce blindness, it is

Resolved That the House of Delegates of the American Medical Association recognizing the dangerous character of wood alcohol and liquors containing it, believes that it should be placed on the list of poisons It accordingly urges the proper federal and state authorities to take the necessary steps to protect life and eyesight from its pernicious influences

At the time this action was taken—on the recommendation of the Section on Ophthalmology—only a preliminary statement was ready for presentation, now, however, the investigations are complete, and we publish this week the first installment of the report of Drs Wood and Buller[1] on the subject, which confirms all that has been claimed in the preambles and resolutions To a large extent "Columbian spirits" and other "deodorized' forms of this deadly poison, wood alcohol, are being substituted for the innocuous or less injurious grain alcohol in all sorts of liquid which—legitimately or otherwise—are used by human beings These include the medicines we use, the perfumes we smell the condiments, sauces and flavors we employ in cooking, as well as the common intoxicating beverages Surely, it is high time that the medical profession should voice an emphatic protest against this wholesale poisonous adulteration of food and drink—an adulteration so far confined, by the way, to the American continent—and consider whether the sale of this 'deodorized," palatable and attractive poison should not be altogether prohibited

EXPULSION PENALTY FOR EXTORTION

A German medical society, it is reported has recently disciplined one of its members for charging extortionate fees Being consulted by an American millionaire for appendicitis, he recommended an operation and suggested the name of a surgeon The latter was employed and received a liberal fee Then the physician in question who was first consulted sent in a bill for $2,000 for his advisory services This charge was objected to and a smaller sum offered The physician then instituted legal proceedings and had the American arrested and humiliated by being placed in "jail limits"—we presume a sort of unpleasant *quasi* confinement The matter aroused public attention, and the conduct of the physician was severely condemned by press and public, and his fellow-physicians took the matter up with the result as stated It is generally admitted by the public, as well as by the profession, that a physician's charges may vary with his professional reputation, and also according to the means of his client There are high-priced physicians as well as high-priced lawyers, and nothing unethical is recognized in the distinction Moreover the scale of charges varies according to standards fixed by medical societies to fit the means of the patients Practically, there is no limit as to contracts between physician and patient One is at liberty to receive whatever the other is willing to pay, and one's conscience permits one to receive and there is nothing unprofessional or unethical in large fees *per se* When, however as in this instance, a physician attempts to force by legal means what the public would regard as extortionate demands not corresponding to what is considered the value of his services or opinions, he is liable to receive the tacit, if not the open, condemnation of most of his professional brethren The occurrence of such affairs and the concomitant public discussion is an unpleasant thing—a sort of scandal on the profession—and probably our German confrères followed the least regrettable course in the matter

NIELS R. FINSEN

In the death of Niels R Finsen in Copenhagen Denmark September 24, there passed away one of the heroic figures in modern medicine In spite of chronic and incurable disease, Finsen, with rare persistence developed phototherapy on a strictly scientific basis so that it became definitively established as a successful means of cure in lupus vulgaris He early recognized that if the great forces contained in light ever could be used in the science of practical medicine it would result only from investigations of physical, chemical and biologic nature, together with practical experiments in different diseases Apparently, his earliest publications concerning light and its action on the animal organism date from 1893 In 1896 the results of his scientific researches led to the establishment in Copenhagen, as the outcome of private and public support, of "Finsen's Medical Light Institute" Subsequently this institute, which soon became known everywhere, was greatly enlarged In 1899 Finsen began the issue of a series of reports (Meddelelser fra Finsen's medicinske Lysinstitut) in which are published the results of the scientific and practical work of the institute In the meantime there appeared important monographs by Finsen in the Danish, French and German languages Here were considered especially the rôle of the chemical rays of light in medicine and in biology and the treatment of lupus vulgaris by concentrated chemical rays The report covering the first 800 cases of lupus vulgaris treated at Finsen's institute (November 1895 to November 1901) show that 407 were cured 85 had interrupted the treatment while 308 were still under treatment This report may be taken as a model of thoroughness and exactness in dealing with matters of this kind one is particularly impressed with the carefulness to avoid premature and exaggerated statements as to the value of the method This is not the time nor the place to give any detailed account of the scientific work of Finsen and his assistants To Finsen belongs the credit of having placed phototherapy on a firm and scientific basis But no one must think for a moment that this was accomplished without persistent effort In reading Finsen's writings and the publications of others working in his institute one at once finds the keynote to be continuous extension of our knowledge of the action of light on living matter and improvements in the practical application of the chemically active rays Finsen was ever conservative in his own estimation of the therapeutic powers of light and advanced claims which subsequently proved to be without adequate foundation In his short but fruitful career Finsen consistently illustrated that unselfishness and modesty which medical men love to see in their best types He cared not for personal gain When he was awarded the Nobel prize in medicine in December, 1903 he generously turned the money received over to the use of the institute From whatever side we look at Finsen and his work, there comes only the impression of a noble character

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[1] See page 972

Medical News.

CALIFORNIA

Donation for Hospital—The Pasadena Hospital has recently received an anonymous donation of $15,000 to be applied to the construction of a new hospital building

New Buildings for Sanatorium—Work has been commenced on a two story building and a bungalow cottage to cost $30 000 for the Southern California Sanatorium for Nervous Diseases Pasadena

Angelus Hospital Association Will Build—A permit was issued September 16 to the Angelus Hospital Association for the construction of two fireproof hospital buildings in Los Angeles, to cost $150,000

One-fifth of Deaths Preventable—In the last two years, 28,000 deaths have occurred in the state, of which 5,798, or more than one fifth, were from preventable diseases, and especially typhoid fever No case of plague has been reported since February

Personal—Dr Frank S Woolsey, Berkley, has been appointed physician of Alameda County, vice Dr Hubert N Rowell, resigned ——Dr Dwight H Trowbridge, Fresno, has returned from Europe ——Dr Rae Felt, Eureka, was injured in a wreck on the New York Central Railway at Lyons, N Y, September 25 ——Dr James H Todd has been re elected president of the Oakland Board of Health

Restrictions of State Health Board—Dr Newel K. Foster, Sacramento, secretary of the State Board of Health, in his report to the governor, says that while the law imposes important duties on the board, it bestows little power, as it does not oblige local boards of health to answer interrogations from the state board, does not allow enforcement of proper measures to protect life and health, gives no means for eradicating causes of diseases and epidemics or for the dissemination of information to the people save through the good will of the press

CONNECTICUT

Bequest—By the will of the late Mrs Ruth Ann Adkins of Winsted, the residue of the estate, after the payment of legacies, is devised to the Litchfield County Hospital The value of the bequest is about $15,000

Infectious diseases were reported during August as follows Measles, 15 cases in 7 localities, scarlet fever, 44 cases in 17 localities, cerebrospinal fever, one case, diphtheria, 86 cases in 22 localities whooping cough, 6 cases in 3 localities, typhoid fever, 173 cases in 47 localities, and consumption, 18 cases in 6 localities

Personal—Dr Edward S Brackett Hartford, has been appointed surgeon of the schoolship *Philadelphia,* which is about to take a trip round the world—Dr Franklin H Mayberry, East Hartford, has been nominated for state senator ——Dr L Z Skinner, Windsor, has been appointed assistant professor of anatomy in the medical department of the University of Illinois

August Deaths.—During August 1,362 deaths were reported, 46 less than in the preceding month, 33 less than in August, 1903, and 53 less than the average of August for the five years preceding This is equivalent to an annual mortality of 17 per 1,000 The principal causes of death were diarrhea, 361, diseases of nervous system, 136, consumption, 123, heart disease, 104, and violence, 86

GEORGIA.

Personal—Dr Thomas H Hall has been elected city physician of Dublin

Journals Consolidated—The editor of *Southern Medicine* announces the consolidation of that journal with *Gaillard's Medical Journal,* beginning with the October issue

Health Department Appropriation.—Augusta has appropriated an additional sum of $2,400 for the health department, $1,200 of which is to be used in betterment of the isolation hospital

National Guard Surgeons to National Meeting—The governor has detailed the surgeon general, Col Joseph A Gunn, Conyers, Majors Floyd W McRae, Atlanta, Joseph G Jarrell, Savannah, Olin H Weaver Macon, Charles J Montgomery, Augusta, and Andrew H Hilsman, Albany, and Lieutenants James M Kelly, Griffin, Guy Chappell, Dawson, John M Spence, Camilla, and Sam H Greene, Atlanta, as delegates to the Association of Military Surgeons of the United States, which meets in St Louis, October 10 to 15

IDAHO

Society Meets—The South Idaho District Medical Society met at Idaho Falls, July 2

Hospital at Coeur d'Alene—Plans are nearly completed for a hospital building to be erected at Coeur d'Alene lake on the water front, by Dr W W Webb

Smallpox Death—A patient who had been ill with smallpox for two weeks at Mahon's Mill on Lake Creek, died, principally, it is said, from want of proper care and attention

In Prison for Shooting—Dr James W S Emerson, Milner, has been sentenced to two years' imprisonment in the state penitentiary for shooting and seriously wounding his wife last autumn

ILLINOIS

Hospital Incorporated.—Baptist Hospital, Woodstock, has been incorporated, with a capital stock of $10,000

Personal.—Dr Howard Kelly, Baltimore, was the guest of honor at a dinner in Peoria, September 22 at which Dr Clifford N Collins presided——Dr Elijah A Morgan, Decatur, has retired from practice on account of ill health

Hospital Planned for Oak Park.—A hospital "built by Oak Park people and managed by Oak Park people for Oak Park people" is planned Dr John W Tope is the chairman of the incorporation committee The projectors expect to erect a building to cost $125 000, with separate isolated and maternity buildings

Illinois Suitable for Consumption Cure—The Illinois State Board of Health has issued a third revised edition of its circular on the "Cause and Prevention of Consumption," which was published in July In this circular Illinois is commended as a suitable place for the treatment of consumption, and attention is directed to climatic conditions, elevation and soil, which is equally as good as, and in some instances superior to those found at the famed tuberculosis sanatoria of Massachusetts New York and Pennsylvania The sections on the care of the consumptive, prevention of consumption, and consumption in schools, contain much new information Within the last few weeks $16,000 has been offered to the board to be utilized in the construction of a consumptive hospital

Chicago

Bequests to Hospitals—By the will of Mrs Elizabeth G Kelly the Home for Incurables receives $60 000 the Presbyterian Hospital $25 000 and St Luke's Hospital a liberal sum, the amount of which is not yet announced

Personal.—Dr George F Butler has severed his connection with Alma Sanitarium and will resume practice in Chicago ——Dr John L. Sweeny has returned from Europe——Dr and Mrs Daniel R. Brower have returned from the west——Dr Norval H Pierce has returned from a summer in Europe

Mortality for the Week.—In the week ended September 24, 457 deaths were reported, 14 more than in the previous week and 41 less than in the corresponding week of 1903 This is equivalent to an annual death rate of 12 36 per 1,000 Acute intestinal diseases caused 81 deaths consumption 63 violence 42 heart disease and Bright's disease each 34 and pneumonia 32

Antitoxin Stations Opened—The department of health has established antitoxin stations at 7 drug stores on the north side 14 on the south side, and 10 on the west side, at which diphtheria antitoxin can be obtained at the following prices 1 000 units 75 cents 2,000 units $1 25, 3 000 units $2 25 The department supplies culture outfits and makes a diagnosis of diphtheria free for all physicians who apply They advise all physicians to make a culture and send it to the laboratory in every case of "sore throat" whether they suspect diphtheria or not "because it is well known that it is practically impossible to diagnose diphtheria clinically in every case If a child dies of diphtheria one of two parties is directly responsible—either the parents in not calling in a physician soon enough or the physician for not making the correct diagnosis and giving antitoxin early enough in the disease"

Summary of Smallpox in Chicago—During the last six years 1 241 cases of smallpox have been sent to the Chicago Isolation Hospital Of these 1,114 never had been vaccinated, 127 had some sort of a scar said to have been of a vaccination in early life None of these with the old marks had ever been revaccinated Three experienced physicians examined these persons for evidence of vaccination and the figures are absolutely reliable These 1 114 cases came from the remnant of unvaccinated persons It is probable that 90 per cent of the people of Chicago are vaccinated and from this source came only 127 cases while from the remaining 10 per cent 1 114 cases were sent to the hospital Last year 389 patients with smallpox were sent to the hospital, 102 of whom were unvaccinated children under the school age of 6 years 14 of whom died This year, out of 161 cases 52 are unvaccinated children under the school age The children under school age are not required by law to be vaccinated, which accounts for these babies falling victims to this face scarring and death dealing disease The unvaccinated children under 6 years of age and the unvaccinated new arrivals in the city who have found employment without being required to produce a certificate of vaccination, furnished nearly all the victims The disease has changed recently to a more virulent form, four deaths having occurred in the last fifteen days There were but three deaths in the previous eight months Evidence that no recently vaccinated person ever contracts smallpox is the fact that during the last six years the most recently vaccinated person to be sent to the hospital with smallpox had an imperfect mark made thirteen years previous to the attack

MARYLAND

Baltimore

Opening of New Surgical Building—The new surgical building of Johns Hopkins Hospital will be dedicated with elaborate ceremonies October 5

College Opens—The twenty fourth annual course of instruction at Baltimore Medical College was opened, September 20, with an address by Dr George Reuling

Teachers to Examine Children—The board of commissioners has instructed the teachers to examine the arms of all children under them for vaccination marks and report to the health department

Need Isolation Hospital—A fatal case of diphtheria, in which a woman was without medical attendance for a week, and was dependent on her neighbors for sustenance, again emphasizes the need of a hospital for infectious diseases

Personal.—Dr William Lee Howard has returned from abroad——Drs Isaac E Emerson and Smith Hollis McKim arrived home from Europe September 18——Dr and Mrs Charles Whittier Young will sail October 25, from San Francisco, for China, where Dr Young will be a medical missionary

Defects in State Lunacy Laws—Attention is drawn to numerous defects in the lunacy laws of Maryland Dr Preston, secretary of the lunacy commission says the law is unconstitutional All that is necessary to commit any one to an asylum is the signature of two physicians to a certificate of insanity There is no identification of the signers, no affidavit is required "It would be an easy matter for a person to procure a blank certificate and forge the signatures of two reputable physicians to it, or he need not do that, but simply inscribe 'M.D' after any name I know of no instance in which this has been done, but the mere fact that it is possible under the present law is sufficient warrant for an amendment to the law" Again, the law says a person so committed "shall be confined until released by due process of law," which is legally imprisonment for life, as there is no process of law in the Maryland statute books by which an insane person can be released. The commission has endeavored to get around this by "paroling" patients who have recovered, but there is no legal warrant for it, as there should be The last legislature passed a bill by which the state, in January, 1909, will assume the care of all insane institutions, except those in private asylums By this law all pauper lunatics will be removed from county jails and almshouses to one of the state asylums Dr Preston proposes that commitment shall be made only on an order from a court of record The judge is to order an inquiry to be made into the alleged insanity by two competent physicians If they find insanity present they shall certify so under oath, after which the finding is to be approved by the judge, who, if he thinks proper, may order a new examination by physicians or jury, or may summon the parties before him In case of emergency a patient may be admitted to an institution for three days, during which the examination is to be made as above The secrecy with which the incarceration of an alleged insane person is permitted under the present statute is further said to be one of the weightiest arguments against the law, as it practically legalized kidnapping

MINNESOTA.

Ames May Go Free—The county attorney of Hennepin County has made a motion for a nolle of the ten indictments against Dr Albert A Ames, formerly mayor of Minneapolis

August Vital Statistics of Duluth.—During the month 72 deaths and 114 births were reported Typhoid fever caused 5 deaths, tuberculosis, 6, and violence, 16 No death from contagious disease was reported.

Anti-Spitting Crusade Extended.—The health commissioner of Minneapolis, after having conducted a successful campaign against spitting on sidewalks, has now caused to be placed in the galleries of all the theaters of the city huge placards reading, "Don't Spit on the Floor Fine, $5"

Hospital Notes.—The new emergency hospital at the state fair grounds, secured by the efforts of the Woman's Medical Society of Minneapolis, contains 3 wards, an operating room and several private rooms——A thoroughly equipped hospital was recently opened at Cass Lake——Work on the State Sanatorium for Consumptives at Walker will be begun soon During 1904 and 1905, $25,000 is available for the sanatorium

NEW YORK

Medical Staff Changes in Utica—At the quarterly meeting of the medical staff of Utica General Hospital, Dr Raymond L Baker was elected a member, vice Dr Thomas J Bergen, resigned

Medical Colleges Open—The medical department of the University of Buffalo opened for the session of 1904 05 September 26——Albany Medical College reopened September 20 Dr Richard M Pearce delivered the introductory address

For Nassau Hospital—A charity fair was held at the home of Mr and Mrs Clarence Mackay at Roslyn for the benefit of Nassau Hospital Mrs Mackay has recently presented this hospital with a new ambulance complete in every detail and also with a home for nurses

Faculty Changes—The following faculty changes in Albany Medical College have occurred Dr Richard Mills Pearce has succeeded Dr George Blumer as professor of bacteriology and pathology, Dr H Judson Lipes has been made clinical professor of obstetrics, Dr Spencer L Dawes, adjunct professor of materia medica, Dr Wilfred S Hale, demonstrator of anatomy and assistant curator of the museum, Dr Edwin McD Stanton, lecturer on histology, Dr Howard E Lomax, instructor in anatomy, Dr Charles K Winne, Jr, instructor in bacteriology, Dr George G Lempe, instructor in anatomy, Dr Donald Boyd, demonstrator in anatomy of the nervous system, Dr Edward F Sibley, instructor in clinical microscopy, and Dr Silas L Filkins, prosector of anatomy

Buffalo

Mercy Hospital Opened.—The new Mercy Hospital was opened with appropriate ceremonies September 24 Bishop Cotton made an address

Returned—Dr W Harry Glenny has returned from Muskoka——Drs George W York and Charles H Stadlinger have returned from California——Dr James W Putnam has returned from St Louis——Dr Bernard Bartow has returned from Wanakah

Crusade Against Insanitary Bakeries.—Health Commissioner Greene has started a crusade which has for its object the bringing of every bakery in the city into a sanitary condition Hereafter every baker will be required to obtain a permit from the health department before securing a license from the mayor This will bring the bakeries under direct supervision of the health department and the department will thoroughly inspect the bakeshops at regular intervals

New York City

Dinner to Semon—Invitations have been issued to a dinner to be given by the Section on Laryngology of the New York Academy of Medicine on November 1 to Sir Felix Semon of London

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 24, 305 cases of tuberculosis, with 145 deaths, 224 cases of diphtheria, with 16 deaths, 93 cases of typhoid fever, with 21 deaths, 58 cases of scarlet fever, with 4 deaths, 43 cases of measles, with 4 deaths, 2 cases of smallpox, 3 of varicella, and 19 deaths from cerebro spinal meningitis

Protest Against Carbolic Acid Ordinance—Health Commissioner Darlington has given a hearing to a number of druggists on their protest against the new ordinance forbidding the sale of carbolic acid in other than a weak solution without prescription The druggists claim that it would not lessen the number of suicides, as such persons would seek some other remedy, and that the five per cent solution would be as deadly in effect if it were taken in sufficient quantity Dr Darlington declared that his investigations of carbolic acid suicides for the past several months showed that in 42 per cent of the cases the acid was procured in drug stores without any difficulty

OHIO

Dr Scott Stricken—Dr Xenophon C Scott, Cleveland, was stricken with apoplexy while making a professional call, September 15, and is in a serious condition

Hyndman's Successor—Dr Albert V Phelps has been chosen to succeed the late Dr James G Hyndman as secretary of the faculty of Ohio Medical College, Cincinnati

Memorial to Dr Buechner—The Mahoning County Medical Society devoted its meeting of September 20 to a consideration of the life of its late honored member, Dr William L Buechner, Youngstown

Personal—Dr Amanda H Miller, Cleveland, has returned from Europe——Dr John P Kenny, Youngstown, is ill with diphtheria——Dr Frederick W Lamb has been appointed to succeed Dr William Muehlberg on the staff of the Cincinnati City Hospital——Dr Charles L Harmer has resigned from the staff of the Massillon State Hospital, Drs J D O'Brien and D E Harris have been promoted from internes to assistant physicians, and Dr H F Vaughan has been promoted from druggist to assistant physician

Colleges Open—Dr Starling Loving, Columbus, opened the fifty eighth session of the Starling Medical College with a clinical lecture, September 14 Additions to the teaching force are Dr Sissons in the department of anatomy, Dr Clement Jones in biology and embryology, and Dr Sterling B Taylor, demonstrator of anatomy, vice Dr Louis Kahn——Toledo Medical College opened for its twenty fourth annual session, and its first session as a department of the Toledo University, September 22

PENNSYLVANIA.

Personal.—Dr John P McCord, Pittsburg, has been elected surgeon general of the Union Veteran Legion——Dr and Mrs James M Anders, Philadelphia, have returned from an extended visit in Europe

Smallpox in Pottstown—Smallpox continues and is apparently on the increase in Pottstown, and general vaccination is to be carried out An order has been issued preventing all pupils who have not been successfully vaccinated from entering the public schools

Diphtheria in Chester Schools—Since the opening of the public schools in Chester several cases of diphtheria have been discovered among the pupils The disease is scattered throughout the city, and the authorities claim that the epidemic is due to weather conditions, and not to any sanitary defects in the buildings

Asks Increased Powers.—The State Board of Medical Examiners has prepared a bill which will be introduced at the next session of its legislature, giving the board the power to cancel any license issued by it whenever it appears that the holder is not a fit person to be so licensed because of lack of education or unsatisfactory professional and moral character

New Pittsburg Hospital.—St Joseph's Hospital, Pittsburg, was opened for public inspection September 20 The first floor of the building is devoted to the administrative department, dining room, kitchen, etc, on the second floor are the medical and surgical wards and the operating room, and the third floor is used for dormitories for the nurses and resident hospital staff The staff consists of Drs Otto Gaub, John P Saling, M L Schoenfeld, Benjamin B Wood, Alexander R Hampsey, Thomas P Cochran, Charles H. Hertzog, Christopher C Hersman and G Arthur Dillinger

Philadelphia

Public Baths—The 16 public bath houses maintained by the municipality have been closed for the season During the season 4 725,142 persons, including 3,525,736 boys, 1,072 941 men, 98,952 girls, and 27,513 women made use of the baths, an increase of 734,525 over the bathers of last year

Smallpox Hospital Closed—The smallpox building of the municipal hospital has been closed and thoroughly fumigated This is the first time in five years that the building is without an occupant The freedom of the city from the disease is attributed to universal vaccination, and this is to be continued by house to house visitations during the entire winter

Brunton and Liebreich in Philadelphia—Sir Lauder Brunton, F.R.S London, formerly lecturer on therapeutics in St Bartholomew's Hospital, London, and Prof Dr Oscar Liebreich, professor of pharmacology in the University of Berlin, addressed the students of Jefferson Medical College Friday, September 30, and were entertained at dinner by Dr Hobart A Hare in the evening

Health Report.—The typhoid situation is much improved The number of new cases reported for the week was 97 This is a decrease of 37 over the preceding week In all 186 cases of contagious disease were reported, with 23 deaths, as com pared with 234 cases and 27 deaths for the previous seven days The general death rate remains low, and the deaths from all causes for the week aggregated 401, a decrease of 7 from those of last week and a decrease of 9 from those of the corresponding period *of last year*, 51 deaths resulted from tuberculosis

Medical Colleges Open—The medical department of the University of Pennsylvania opened for its 139th session September 30 The exercises were held in the new laboratory building, and Dr John H. Musser delivered the address ——Hon William Potter, president of the board of trustees, delivered the address at the exercises, which marked the opening of the 80th annual session of Jefferson Medical College, which were held in the new college building, September 26 ——The Medico Chirurgical College of Philadelphia held its 23d annual opening exercises September 28 Dr Judson Daland delivered the address of the evening ——The 55th session of the Woman's Medical College of Pennsylvania was opened September 21 Dr Clara Marshall the dean delivered the opening address

TENNESSEE

College Opens Later—Tennessee Medical College Knoxville, will open for the year, November 1 a month later than usual

Epidemic Disease.—There are three cases of smallpox in Grundy County at Coalmont All necessary precautions have been taken ——Sumner County is reported to have an epidemic of scarlet fever Three cases have been found at Portland 2 at Fountain Head and 9 at Grabeall, with one death Schools have been closed.

Personal.—Dr William A Duncan Nashville has passed the examination for admission to the medical department of the Army and is ordered to report for duty in Washington, October 1 ———Dr Z D Massey, Sevierville is unopposed as candidate for state senator from the fourth district ——Dr John P Bates, St Bethlehem has been appointed a member of the sanitary staff of the Isthmian Canal Commission, and left for his post of duty, September 20

TEXAS

Personal—Dr Joseph S Wooten, Austin, is seriously ill with typhoid fever ——Dr Thomas M Colley, a retired physician of Palestine was run over by a buggy, September 15, and seriously injured

Yellow Fever Kept Out.—The U S Public Health and Marine Hospital Service and the state health authorities of Texas have succeeded in preventing the introduction of yellow fever across the American border from Mexico Last year the disease managed to get into some of the American towns on this side of the border New Orleans quarantined against a number of Texas points, and the state health boards of a number of southern states took the matter up The work this year has been directed toward extermination of mosquitoes along the border and has been quite successful Mexicans and Americans have joined in doing all they could to prevent yellow fever getting a foothold in this country this year So far there has not been a single case in the country

WASHINGTON

Tacoma's Health—During August 54 deaths occurred, equivalent to an *annual death rate of 9 96* per 1,000 Three cases of consumption, 4 of smallpox, 3 of measles, 20 of typhoid fever and 2 of diphtheria, were reported during the month

Medical Building for Seattle—Local physicians and capitalists are to erect a ten story building, to cost $200,000, to be occupied exclusively by physicians, and to be known as the Medical Building The lower floor will be occupied by a prescription drug store and a medical supply house

School Children Inspected.—For the first time in the history of Everett, thorough inspection of school children was made, September 7, by physicians of the department of health Two suspicious cases were found, and the children sent home —— Medical inspection of Seattle school children began September 6

WISCONSIN

Healthy Milwaukee—During August 330 deaths were reported equivalent to an annual death rate of 11 95 per 1 000 Tuberculosis caused 30 deaths, organic heart disease, 29, violence, 17, and diarrheal diseases, 75

Physician Enjoined—Dr L W Zochert, Hingham, has won his suit against Dr J H Blekking, of that village, whose practice he recently bought out, with the condition that Dr Blekking would not practice medicine in neighboring towns The latter resumed practice, however, and Dr Zochert brought suit against him The judge granted an injunction against Dr Blekking

Milwaukee Colleges Open—Milwaukee Medical College opened for the first session of its second decade September 20 Dr William H Earles delivered the address of welcome, and Dr William G Doern, formerly of Fort Madison, Iowa, the newly elected professor of anatomy, the formal address of the evening ——The opening exercises of the Wisconsin College of Physicians and Surgeons were held September 20 Dr Arthur J Patek delivered the address to the matriculants

Health Teacher Fined—'Dr" Mak, claiming to hail from Colorado, but who also says he has been a 'health teacher" in Wisconsin for many years, was fined $50 and costs, or sixty days in jail, September 3, on the charge of practicing without a license in Ashland The sentence was suspended twenty four hours, to give him time to get out of town With a view, however, of protecting the citizens of Wisconsin, notices have been sent to cities throughout the state notifying the authorities to be cautious and to see to it that "Dr" Mak does not attempt to practice medicine in their vicinity

GENERAL

Mississippi Valley Medical Association—The thirtieth annual meeting of this society will be held at the Grand Hotel, Cincinnati, October 11 13

Hospital for Manila.—The Board of Health of Manila and the Secretary of the Interior have approved plans for a building to be used as a civil hospital, on the grounds on Calle Padre Faura, known as the exposition grounds

American Neurological Society—At its annual meeting at St Louis this society elected the following officers for the ensuing year President, Dr Z W Spiller, Philadelphia, vice presidents, Drs Philip Zenner, Cincinnati and William Lullard, Boston, secretary, Dr T M Hammond, New York City Philadelphia was selected as the meeting place for 1905

New Hot Springs—The United States government is preparing to spend $600,000 in improving the reservation and park at Sulphur Springs in the Chickasaw nation, I T, for the purpose of making a second Hot Springs similar to the famous Arkansaw resort It is to be maintained by the government in the same manner as is Hot Springs, Ark, but will be even more beautiful and picturesque. There are three groups of springs and abundant fresh water of good quality in sufficient volume for city water supply

Sanitary Conditions in Panama.—An interesting feature of the sanitary work of the canal zone consists of what is known as "mosquito engineering" Owing to the heavy and intermittent rains, anopheles abound. Breeding places have been found in the Ancon grounds at Colon, where the hospital is situated, and all the collections of water contain the larvæ. One of the worst localities in Culebra, where the actual work of excavation is going on and malaria is very prevalent among the laborers In order to prevent smallpox an ordinance regarding vaccination has been promulgated by the chief medical officer

Luncheon to World's Fair Visitors.—A luncheon was tendered the delegates of the biologic and medical sections of the International Congress of Arts and Science by the faculty and staff of teachers of the medical department of Washington University, Sept 21, 1904 Among an attendance of 100 the following eminent men participated Theobald Smith, Harvard University, Oskar Hertwig, Berlin, Yves Delage, member of the Institute of France, Wilhelm Waldeyer, Berlin, S J Meltzer, New York, Max Verworn of Göttingen, Pierre Janet, College de France, Paris, Morton Prince of Boston, William Osler of Johns Hopkins, William T Councilman of Harvard, William T Sedgwick, Massachusetts Institute of Technology, Ronald Ross, Liverpool, Ludvig Hektoen, Chicago University, Johannes Orth, Berlin, Sir Lauder Brunton, London, Frederick C Shattuck, Harvard, T Clifford Allbutt, Cambridge, William S Thayer, Johns Hopkins, L F Barker, Chicago, Shibasaburo Kitasato, University of Tokio, James J Putnam, Harvard, Charles L. Dana, Cornell University, Edward Jackson, Denver, George M. Gould, Philadelphia, Sir Felix Semon, London, Theodor Escherich, Vienna, Abraham Jacobi, New York, John H Musser, Philadelphia, William B Northrup, New York, R. A Reeves, Toronto, William H Welch, Johns Hopkins

Cancel Charter of a Fake Medical College—On two or three occasions THE JOURNAL has referred to a diploma mill that has been in active operation in Guthrie, Oklahoma, under the title of "The Twentieth Century Physio Medical College" Last week a suit was filed in one of the district courts of Oklahoma Territory by the attorney general of the territory against this college to have the charter canceled The petition for the revocation of the charter states that the concern was organized by H Warner Newby, C A Newby and M E Newby, and that it was for the purpose of carrying on an educational institution for the conferring of degrees, etc., "that instead of conducting the institution as a medical college it has been fraudulently used for illegal means of issuing diplomas, and that instead of issuing these as a result of a legitimate course of study, the diplomas were sold at wholesale" The institution was at one time sending out circulars, not only from Guthrie, but from a little town in Pennsylvania, and through the efforts of THE JOURNAL the postal department undertook to get a case against it, but those connected with the Pennsylvania end of the concern discovered that they were being investigated and stopped. Beside the Twentieth Century Physio Medical College, the same individuals were conducting the "Twentieth Century Health Association," which, according to their circular, was incorporated under the laws of Oklahoma Of this concern Calvin D Gully was president, and H Warren Newby secretary Ostensibly, this association was organized "to advance the cause of liberal medicine and the mutual protection of members of our association, and to form a stronger combination, where all can be benefited and have legal protection wherever they wish to go" The real object, however, appears farther down in the circular, where it is stated that the shares are $10 00 each, and each member of the association holding one share "will receive a large, handsome certificate, with a beautiful seal and ribbons, which will be a fine ornament to your office We wish the co operation not only of the physicians of the association, but every healer and every good citizen in the country Every one who sends $10 00 will receive one of these handsome certificates, 19x28 inches, as fine as any diploma you ever saw" To show the connection of the Twentieth Century Health Association and the concern against which legal steps are now being taken, a footnote in the circular says "Graduates of the Twentieth Century Physio Medical College, Guthrie, O T, can practice anywhere in the United States"

CANADA

Hamilton Supports the National Sanitarium—The Hamilton Branch of the National Sanitarium Association has recently contributed $1,000 toward the maintenance of patients in the Hamilton and Wentworth County Pavilion of the Muskoka Free Hospital for Consumptives This makes $4,000 received from Hamilton altogether for the support of their consumptive poor

Personal.—Sir Lauder Brunton was recently the guest of Professor McPhedran of the University of Toronto——Prof William Osler has been visiting in Montreal and Toronto——Dr Charles O'Reilly, medical superintendent of the Toronto General Hospital, has been elected vice president of the Association of Hospital Superintendents——Dr Brefney O'Reilly, Toronto, has been appointed surgeon on the C P R steamship *Tartar*, and has gone to Vancouver to assume his new duties——Dr H A Bruce, one of Toronto's leading surgeons, and who was recently operated on for appendicitis, is rapidly recovering

To Quarantine All Inebriates.—A meeting of those interested in the treatment of inebriates was held at Government House, Toronto, September 19, Premier G W Ross being in the chair Dr T D Crothers, Hartford, Conn, delivered the principal address, outlining a system for the care and treatment of inebriates Dr A M Roseburgh, Toronto, told what had been done in Toronto and the province of Ontario Professor McPhedran of the University of Toronto introduced a resolution to the effect that the time was now ripe for the formation of a society for the reform of inebriates This was carried and another meeting will be held soon to organize

Vancouver Hospital.—The report of the house surgeon of the Vancouver General Hospital for August shows that there were 58 in residence at the beginning of the month, and that 37 were admitted during the month Eighty one were discharged as cured, three died and sixty one remained at the end of the month The number of hospital days was 1,810 The special committee appointed regarding the medical staff reported as follows That the active staff be composed of 12 Drs Johnston, S J Tunstall, W D Brydone Jack, Weld, Langis, Poole, Drier, Monro, Boyle, R E McKechnie and Mills, with one to be appointed by the directors The following will compose the consulting staff Drs D H Wilson, Lefevre, McGuigan, Carroll and Underhill

Montreal General Hospital—The regular quarterly meeting of the Montreal General Hospital was held last week, when it was decided to alter the constitution so as to leave the medical board free to engage the officers of the resident medical staff from outside of the British dominions The clause now reads "No person shall be eligible as resident medical officer unless he is a graduate or licentiate in medicine of some university or college approved by the medical board" The following is the medical staff for the ensuing year Drs J L. Robinson, J C Fysche, W G Bicker, J A Nutter, L L Reford, W W Kerr, H G Wood, R B Forbes, A C Rankin and W E Ainley Dr J Alex Hutchison read the medical report for the past quarter which showed that 781 patients were treated to a conclusion There were 67 deaths, of which 26 occurred within three days of admission, making the mortality for ordinary hospital cases 5 5 per cent In the out door departments there were 9,072 consultations

FOREIGN

Sanitation in Mexico—President Diaz, in his annual message, reports the gratifying result of the sanitary campaign against yellow fever, and states that there has been no recurrence of the disease in epidemic form during this year

Spanish Red Cross Society—It is reported that the Spanish Red Cross Society voted to send 25,000 pesetas ($4,750) to aid the Japanese branch of the society It was proposed to send an equal amount to the Russian branch, but the proposal was rejected almost unanimously

Gen Kuropatkin's Gifts to Medicine.—The Military Medical Academy at St Petersburg has recently installed a portrait of its honorary member, General Adjutant Kuropatkin, in the main hall as a token of gratitude for his gifts The academy owes to him the remodeling and enlargement of several of its scientific departments and institutes

Bubonic Plague—A recent issue of the public health report of the Marine Hospital Service records cases of plague in widely separated localities The disease is present in several towns in Cape Colony and in other parts of Africa An outbreak of plague is reported from Brazil, in Rio de Janeiro ten new cases were reported in one week

Public Disinfection in Spain—A decree has just been issued in Spain ordering undertakers to disinfect the room after a death The *Siglo Medico* comments on the importance of the decree, especially for the homes of the poor, as the neighbors flock to the funeral, unmindful of danger even in cases of diphtheria, smallpox, tuberculosis, measles or other disease The authorities order that the disinfection shall be undertaken as soon as the undertakers are notified Our exchange, however, expresses the fear that the decree will be practically a dead letter, like so many of its predecessors

The German Training School for the Disinfection Service—The authorities in Prussia organized last year a number of training schools to fit persons for the public disinfection service Fourteen have been in operation, each giving a course of at least nine days altogether, and restricting the students at each course to ten Sixty courses have been given in all, with a total attendance of 601, 585 have passed all the tests and been duly qualified as "graduate disinfectors" The authorities have been so much pleased with the results accomplished that they are urging physicians to call the attention of suitable persons to these courses and advocate their attendance It is hoped that every district will have one or more of these expert disinfectors residing in it Special courses for nurses are also planned It is found that the disinfection service has gained immensely in efficiency in the hands of the graduates of these schools

To Divert the Young from the Medical Profession.—A circular has been sent by the organized medical chambers of Germany to the high schools, warning the graduates from entering on the study of medicine A number of these circulars were thus placed in the hands of the principals of 482 academic and

131 technical high schools, with the request that they would distribute them among their pupils The overcrowded condition of the profession is set forth and the pecuniary stress of the majority of the members, due to overcrowding, to contract practice and to the lack of legislation against the irregular practice of medicine The circular further cites statistics to show that 31 per cent of all the physicians in the Brandenburg Berlin district have an income of less than $750 In Berlin alone more than $5,000 had to be distributed to needy physicians during 1902, and in Bavaria 23 physicians in 1902 and 20 in 1903 had to be assisted In 1901, 138 physicians, 1,387 physicians' widows and 309 orphans were partially supported, and many others who needed assistance refrained from applying for relief The Berlin Medical Chamber often has occasion to help needy physicians or their widows to obtain positions in libraries or the like. On the other hand are to be considered the scant consideration accorded to the physician in these days and the hardships of a doctor's life "In addition to all this,' the circular concludes, "long years must pass after entering the university before the candidate for the medical profession can even begin to support himself by his practice"

Correspondence.

The Danger of Giving Certificates of Physical Disability to Beggars

Muscatine, Iowa, Sept 26, 1904

To the Editor —A few days ago a man came into my office and asked that I give him a certificate as to the condition of his heart He told me that he was on his way west to his family and that he was out of money, in a serious condition and was soliciting aid I examined him and diagnosed aneurism of ascending aorta with mitral insufficiency He stated that his trouble dated from last February and that he had been before the medical class at Ann Arbor, Mich and some other college, and had been told that he could not live long and had certificates from a number of physicians in good standing His case was so interesting from a medical standpoint, per auscultation, that I called in a nearby colleague, Dr A J Oliver, who examined him and concurred in my diagnosis, and we signed a certificate to the effect that he had a serious circulatory lesion, but we made no recommendation for charitable assistance He thanked us for the certificate and went out on the street, where he had a phaeton with a couple of pillows to prop him up and a boy to drive him about He would stop in front of a business house or office, call out the proprietor, tell him his hard luck story, show his certificate and solicit cash In this manner he worked the business district with excellent success until he was found to have forged a prominent business man's name to his subscription list for the influence it would have, and the police ordered him out of town We, of course, were questioned as to our motive in giving him a certificate While the man is physically a wreck his charitable motive appears questionable He certainly would not have to solicit in many places as successfully as here until he could travel across the continent in a parlor car Is he a charitable fraud? He gave his name as Z V Good and is a man about 40 years of age with a conspicuous scar over left orbital bone

T F Beveridge M D

[Note —Newspaper accounts show that this man operated the same scheme in Cedar Rapids —Ed]

Life Insurance Examinations.

Des Moines, Iowa Sept 20 1904

To the Editor —In the issue of September 3 Dr O A Rea mildly rebukes the Des Moines physicians for adopting a fee bill providing for minor charges of $2 for day visits while a minimum of only $2 is charged for life insurance examinations

Permit me to say that I believe his conclusions regarding low fees for life insurance examinations are well founded A typographical error however, made the item read $2 to $5 for day visits, instead of $2 to $3, as provided

The doctor's remarks might lead one to believe that the fees for life insurance examinations have been reduced, which is far from being true On the other hand, the minimum fee has been advanced 100 per cent A number of fraternal societies doing business here, and in other states, have a fixed rate of $1 per applicant, which includes, beside a general examination a chemical urinalysis Some certificates of health have been issued by physicians to certain societies for even less than $1, which all must admit is deplorable in the extreme

While I would not compare the services of the physician to his patient in a matter which concerns the health, or even the life of the latter, to the business proposition relating to a life insurance policy, as does Dr Rea it is, nevertheless, true, as the doctor remarks, 'beneath the dignity of the profession of medicine" to accept the paltry fees proffered by certain societies and corporations for medical examinations on which the very life of the institutions depend

A P Stoner M D

The Medical Profession and the French Chamber of Deputies.

Paris, Aug 28, 1904

My previous letter from here related chiefly to the medical profession as represented in the Senate of France I have since had an opportunity to investigate some of the facts relative to similar representation in the Chamber of Deputies This is the popular branch of the French Congress, its members are elected by direct and universal suffrage, each deputy must live in the arrondissement from which he is elected and consequently, can not represent two constituencies at the same time, and each chamber, or legislature, as it is called in France, is elected for a period of four years The basis of representation is one for each 100,000 inhabitants, with an additional representative for each additional 100,000 or fraction thereof In such instances an arrondissement is divided into circumscriptions like that of Dordogne, for instance which sends six deputies The body thus chosen consists of 561 members, of which, in the present legislature, fifty one are representatives of the medical profession

It is very interesting indeed to study this body of professional men, particularly when one object of that study is to compare the French with the American profession in their relation to the public life of the respective countries The first fact, by no means a surprising one, that impresses the student of political affairs in France is the marked evidence of individualism that is displayed in the multiplicity of parties These exist in such number and with such minor variations of title that, in many instances, their differences can be but little else than doctrinaire, if not metaphysical No one but a student, native to the soil and an active participant, could split terms with sufficient precision to clear up the mélange of definitions Nor is it necessary for our purpose We can see how the medical men are moving by recounting the titles they have given themselves as candidates before their respective electorates Thus, of the one more than a half hundred medical deputies, twenty one inscribe themselves as "Republicain Radical"—which, despite the contradiction of terms, is really the conservative wing of the republican movement, thirteen are "Radical Socialiste," which, I am advised, is the really radical party, standing as it does for everything that is embraced in the socialistic program After this general classification we get into a bewildering maze, in which we find four of our professional colleagues known as "Republicain Progressistes", a similar number simply as "Republicain", two as "Republicain Liberal"; and one each as "Republicain Collectivist," "Radical," "Radical Democratique,' "Socialiste Revisioniste," "Socialist," "Conservateur," and one as "Socialiste Blanquiste," whatever in the world that may mean No name of a physician occurs under such classifications as "Royaliste," 'Droit," "Droite Plebiscitaire," "Rallie," "Republican Catholique," or "Plebiscitaire Antisémite," groups which, in the aggregate, make up the clerical party as opposed to the government in the present controversy with the Vatican, and which stands, in one form or another, for everything in the *status quo ante* of 1870

If this extraordinary manifestation of individualistic activity were restricted to the medical members the prospect for the a member of the Ohio State Medical Association and the Academy of Medicine of Cincinnati, one of the most prominent physicians of Cincinnati, died at the Good Samaritan Hospital in that city, September 18, three days after an operation for appendicitis, aged 51 The faculty of the college, at a special meeting, September 20, passed resolutions eulogistic of their departed colleague and beloved friend

Charles E Pease, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1882, of Middletown, Pa, surgeon for the Pennsylvania System and the American Tube and Iron Company, died at the German Hospital, Philadelphia, September 12, from catarrh of the stomach, after an illness of several months and an operation for appendicitis, aged 47

John A Wegg, M D Western Reserve University Medical Department, Cleveland Ohio, 1865, a member of the American Medical Association, formerly a leading physician of Sandusky County, Ohio, residing at Rollersville, but who had lived in Cobreville, San Jago de la Vega, Jamaica, British West Indies, died recently at his home in Jamaica

Francis P Phelps, M D University of Maryland School of Medicine, 1853, surgeon of First Eastern Shore Volunteers from 1861 to 1863 a member of the House of Delegates of Maryland from 1893 to 1895, and a justice of the peace since 1900 died suddenly from acute gastritis at his home in Cambridge, Md, September 17, aged 74

Henry Ridgeley, M D Medical Department of the University of Pennsylvania, Philadelphia, 1839, and president of the Farmer's Bank of the state of Delaware, died at his home in Dover Del, September 17 aged 87 His death occurred suddenly and indirectly was due to hiccough, which began several days before

George P P David, M D Kentucky School of Medicine, Louisville 1891, for five years director of a large hospital in San Pedro Sula Spanish Honduras, died at his home in New Orleans, September 18, suddenly from heart disease, aged 45

Jacob Chambers, M D University of Buffalo, 1875, one of the managers, and surgeon of the City of Kingston Hospital family physician to Judge Alton Parker, died at his home in Kingston, N Y, September 16, aged 52

George Jacob Hirth, M D University of Michigan Department of Medicine and Surgery, 1891, of Milwaukee, died at a sanitarium in Wauwatosa, Wis, September 14, after an illness of a year, from paralysis, aged 38

Ellery G Fuller, M D Starling Medical College, Columbus, Ohio, 1888, died from Bright's disease, September 5, at his home in Sterling Center, N Y, after an illness of two weeks aged 46

Charles Conrad, M D Tulane University of Louisiana, New Orleans, 1897, committed suicide by shooting himself through the heart at his home in Cleveland Ohio, September 19, aged 35

James H Benton, M D Department of Medicine of the University of Pennsylvania, Philadelphia, 1876, of Newbern, N C died at Black Mountain, N C, September 14, aged 61

William L Whitted, M D Miami Medical College, Cincinnati, 1878, of Bloomington, Ind, died at Oceanside, Cal, where he had gone a year ago for his health, September 8

H Von Koehring, M D Friedrich Wilhelm University, Berlin, Germany, 1865, died at his home in San Antonio, Texas, September 14, from cerebral hemorrhage, aged 58

Andrew D Finucane, M D Bellevue Hospital Medical College New York City, 1884 of Chicago, died at the Illinois Northern Hospital for the Insane, Elgin, August 16

Frederick Dorsey Mitchell, M D University of Maryland School of Medicine Baltimore, 1846, died at his home near Hereford, Md, September 15, aged 80

Victor Rounds, M D Rush Medical College, Chicago, 1882 died recently at his home in Brainerd, Minn, and was buried at Verndale, Minn, September 20

Allen M Pierce, M D Rush Medical College, Chicago, 1861, an Army surgeon during the Civil War, died at his home in Wyoming, Ill, June 10

William N Ash, M D Toledo (Ohio) Medical College, 1883, died suddenly at his home in Mount Eaton Ohio, September 14, aged 45

G C Dortch, M D, of Clarksville, Tenn, died at the home of his daughter in South Ryegate, Vt, September 10, from heart disease

William H Wheeler, M D Indiana, 1897, died at his home near Hartford City, Ind, September 14, after a short illness, aged 80

Willard F Parsons, M D, died at the Spencer Hospital, Meadville, Pa, September 4, from an overdose of chloral, aged 49

Henry F Campbell, M D, of Melrose, Mass, died suddenly in Boston, from heart disease, September 14, aged 65

S A Meecham, M D, died recently at his home in Norden, Neb, from malignant disease of the head, aged 87

Charles Galloway, M D Rush Medical College, Chicago, 1892, died at his home in Libertyville, Ill, September 15

Julian Fajans, M D Jefferson Medical College, Philadelphia, 1886, died at his home in Philadelphia, August 26

Samuel S Strayer, M D Chicago Medical College, 1872, died at his home in Naperville, Ill, August 18

William M Henry, M D University of Louisville, 1885, died recently at his home in Onton, Ky, aged 66

Frank M Sisson, M D New York, 1881, died in Rochester, N Y, August 23, aged 49

D M Reagan, M D, died at his home in Buda, Texas, from cancer, August 14, aged 72

George Clough, M D, died at his home in Kansas City, Mo, August 23, aged 83

Deaths Abroad

Niels R Finsen, M D, pioneer in scientific phototherapy, died, September 24, in Copenhagen, aged 43 He was a native of the Faroe Islands He began his work while a student in the Copenhagen University, from which he was graduated in 1890 Three years later he published an article on "The Influence of Light on the Skin," which aroused general attention because of his assertion that smallpox could be cured by the red light treatment This was but one application of the Finsen theory that light rays contained healing powers, and to develop the positive element of his theory he began experimenting with concentrated artificial light rays As a result of his experiments, he effected a cure for lupus vulgaris This cure directed great attention to the young investigator, and in 1896 the Municipal Hospital of Copenhagen allowed Professor Finsen several small buildings on its grounds in which to carry on his experiments The Danish government then became interested in the support of the institution, and this support enabled the institute to be removed to Rosenvaenget, a suburb of Copenhagen, where under the direction of Professor Finsen, with a staff of scientists of national repute, expert electricians, and trained nurses, many cures of cases previously deemed incurable were made In December, 1903, Professor Finsen was awarded the Nobel prize For several years he had suffered from dropsy resulting from heart disease, but so intense was his devotion to his work that he hardly spared time from his studies for sleeping and eating much less to recuperate his health His death is attributable to an aggravation of the diseases from which he had suffered during his entire adult life by reason of his persistent overwork

H Kobner, M D, one of the founders of German dermatology and one of its most prominent representatives, died at Berlin, September 3, aged 66, just a few days before the dermatologists of the world were to gather at Berlin for the fifth international congress of dermatology Köbner founded at Breslau in 1861 the first clinic for skin diseases and syphilis in Germany, and later became director of the clinic established by the university but was soon compelled to resign on account of his health He settled in Berlin in 1877, where his dermatologic policlinic and postgraduate courses were very popular Among the subjects especially connected with his name are sycosis, mycosis tonsurans, leprosy, drug exanthemata, etc, his works on these and allied subjects having been numerous and important

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State Boards of Registration.

COMING EXAMINATION

Board of Medical Examiners of the State of California San Francisco October 25 Secretary Charles L Tisdale M D Alameda

New Rules in Kentucky—The State Board of Health of Kentucky, in putting into effect the new law requiring all applicants for license to pass an examination, has adopted rules and procedures which we reproduce from a circular just issued by the board

REQUIREMENTS FOR MEDICAL COLLEGES AND STUDENTS

On and after July 1 1905 every medical college shall comply with the following requirements as a condition of being recognized as reputable by the State Board of *Health of* Kentucky

1 It shall uniformly exact the requirements for matriculation set forth in requirements for admission to medical colleges, adopted by this board

2 It shall literally *observe* its own published requirements for *admission*, tuition time of attendance at the annual sessions and graduation which must be definitely expressed

3 It shall have adequate equipment and an active and competent faculty for teaching the science and art of medicine embracing the following departments viz Anatomy, physiology, chemistry pathology histology bacteriology, surgery obstetrics gynecology ophthalmology otology hygiene and state medicine medical jurisprudence, physical diagnosis and therapeutics and practice in accordance with the system to which the college belongs

4 It shall have clinical and hospital facilities based on a minimum municipal population at its place of location of not less than 50 000, provided that this requirement shall not apply to institutions under state control which by virtue of such control receive patients gratuitously from all parts of such state

5 It shall require actual attendance on 80 per cent of each of four courses of instruction of not less than thirty continuous weeks excluding holidays, in four separate years and shall not hold more than one graduating course in any one year (It should be noted that no *provision* is made for giving advanced standing for A B B S or other degrees)

6 It shall not accept notes in payment of fees or offer or accept scholarships or any reduction in fees or any form of rebates except as provided for or required under state laws or under the laws of endowed universities and no student shall be given credit *for attendance or advanced* or graduated, until all fees have been paid

7 Colleges may honor official credentials issued by medical colleges of equal requirements as to students who have complied with the Requirements for Admissions to Medical Colleges. except in the branches of study embraced in the last year of their own *curriculum*

REQUIREMENTS FOR ADMISSION TO MEDICAL COLLEGES

All colleges shall require every medical student applying for matriculation on and after July 1 1905 to present to it A Medical Student s Certificate issued to him by a certified examiner of the *state board of* health or *state board of* medical examiners of the state in which such college is located, approved by such board and a certificate of good moral character

The examiner shall require as a basis for his certificate

(a) A degree of A B B S or equivalent from an approved university college or academy of arts, science or philosophy

(b) A *diploma or certificate of graduation from an approved* high school or normal school

(c) A state teacher s permanent or life certificate

(d) A medical student s certificate from any state board of health or examiners demanding equal requirements

Or an examination in writing in the following branches

(a) *English, submitting a composition* in his own *handwriting* on some subject of general interest embracing not less than two hundred words which shall be considered with reference to penmanship spelling pronunciation, thought and construction

(b) United States history

(c) Arithmetic. vulgar and decimal fractions percentage and *compound numbers*

(d) Algebra through equations

(e) Latin through first year of ordinary course

(f) Physics the elements of mechanics hydrostatics hydraulics heat optics and acoustics

GRANTING OF CONDITIONS

Applicants failing to obtain a general average of 75 per cent in the entrance examination and failing below 55 per cent in but two branches may be conditioned by the official examiner on a different form of certificate. The examiner shall make a separate list of such conditioned applicants in duplicate one copy of which shall be sent to the state board of health or examiners and the other retained in his office

REMOVAL OF CONDITIONS

Such conditions must be removed by the presentation of a certificate from the examiner that such applicant has passed a satisfactory examination in the branches in which he was formerly found deficient before he can receive *credit for the first* or be permitted to enter on his second year of study and the examiner shall furnish a list of such applicants to the state board of the jurisdiction

FEE.

Two *dollars is hereby fixed* as the fee to be collected by the examiner for each certificate in Kentucky *Those examined in* special subjects to remove conditions will not be required to pay again but those *failing and taking a* second examination will pay another fee

Kentucky Examination Announcement.—The first semiannual examination by *the State Board of Health of Kentucky*, under the new medical law which became *operative* June 13, 1904 will be held at the School Board Building, corner Center and Walnut streets, Louisville, beginning at 10 a m , on Monday Oct 3 1904 and continuing for three days All applications should be sent to the board at Bowling Green at least five days prior to the date fixed for the examinations, and applicants should be present by 9 a m of the first day No one can be examined who is *not* reputable in the school or system of practice to which he *professes to belong*, and who does not hold a diploma issued to him by a college located within the United States recognized as being reputable by this board Each applicant must present to the secretary at the examination, a recent photograph of himself, the reverse side of which shall contain his signature, written in the presence of the secretary, and he shall make oath before such officer that it is his true picture and signature, and that he is the legal holder of the diploma under which the application is made The filing of an application, or taking an examination, does not authorize the applicant to practice, and no one can legally engage in practice until he has obtained his certificate and registered in the county of his residence Non residents and holders of foreign diplomas are not eligible for examination The fee of ten dollars should be sent to the secretary, Dr J N McCormack, Bowling Green, Ky , with the application

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers U S Army week ending Sept 24, 1904

Devereux J R, asst surgeon left Fort Meade S D, with Sixth Cavalry on road march

Smart, Charles *asst surgeon general* Smart, Robert and Metcalfe R F asst surgeons arrived at San Francisco on the *Sherman* from Manila P I

Church James R *asst. surgeon relieved from duty* at Fort Brown, Texas on expiration of sick leave and ordered to Fort Robinson, Neb

Stark Alexander N asst surgeon reports *on* three months sick leave from date

Greenleaf Henry S reports on ten days leave from date on completion of duty at maneuvers

Appel D M, deputy surgeon general leave of absence extended to include Oct 30 1904

McAndrew P H asst surgeon left Jefferson Barracks, Mo with *recruits to* San Francisco

Kean Jefferson R and Rafferty Ogden surgeons detailed to represent Medical Department of the Army at the Thirteenth Annual Meeting of the Association of Military Surgeons of the United States to be held at St Louis Oct 10 15 1904

Stephenson Wm surgeon granted thirty days leave, permission to apply for twenty days extension

Smart Charles asst surgeon general ordered to proceed from San Francisco to Army and Navy General Hospital Hot Springs Ark for treatment

Williamson, L I asst surgeon *relieved from further duty* as medical director Louisiana Purchase Exposition St Louis and in addition to his duties as attending surgeon headquarters Northern Division, he will perform the duties of examiner of recruits, St. Louis.

Buck Carroll D asst surgeon in addition to his present duties *will perform temporarily* the duties of medical director, Philippine Government Board Louisiana Purchase Exposition, St. Louis

Owen Wm O surgeon, discharged from observation and treatment at U S Army General Hospital Presidio of San Francisco

Owen Wm O surgeon relieved from duty in Philippines and to proceed from San Francisco to Fort Logan Colo for duty

Steer, Samuel I asst surgeon granted thirty days leave of absence.

Lyster Wm J L asst. surgeon, leave of absence extended thirty days

Greenleaf, H S asst surgeon granted thirty days' leave of absence with permission to apply for thirty days extension

Brooks John D contract surgeon ordered to temporary duty at Fort Washakie Wyo not later than September 13

McMillan Clemens W contract surgeon ordered from Fort Niagara, N Y to temporary duty at Fort Hamilton N Y

Boak S Davis, Lauderdale Clarence E. Mason, George L and Wing Franklin F contract dental surgeons arrived at San Francisco September 16 on the transport *Sherman* They have completed three years duty in the Philippines and have been assigned to stations as follows Dr Boak to Fort Hancock N J Dr Lauderdale to Fort Sam Houston, Texas Dr Mason to Fort McPherson Ga and Dr Wing to Fort Riley Kan

Navy Changes.

Changes in the medical corps, U S Navy for the week ending Sept 24, 1904

Curl H C P A surgeon detached from the *Boston* and ordered to duty in connection with the Isthmian Canal Commission

McDonell W N A A surgeon detached from the Naval Recruiting Station Baltimore Md and ordered home to wait orders

Rodman S S P A. surgeon, detached from the *Pensacola* and ordered to the *Boston*

Wilson H. D P A. surgeon ordered to additional duty on the *Southery* September 28

The following named asst. surgeons are detached from the stations indicated and ordered to the Naval Museum of Hygiene and Medical School Washington, D C September 30 R G Heiner, *Southery* R B Chapman, Navy Yard Washington D C R E Stoops, Naval Hospital Norfolk, Va. F E Porter Naval Hospital. Norfolk, Va. H F Hull Naval Hospital Newport, R. I W D Owens Naval Hospital Newport, R I J L. Belknap Naval Hospital N Y D C Cather Naval Hospital New York N T McLean Naval Hospital New York G L Wickes, Naval Hospital Philadelphia W J Zalesky Naval Hospital Philadelphia O J Mink, Naval Hospital, Philadelphia H A May U S R S *Franklin* C T Grayson Naval Hospital Washington D C W A. Angwin, Naval Hospital Mare Island Cal W G Farwell, Recruiting duty Portland and Bangor Maine

Braisted, W C surgeon detached from the *Pensacola* and ordered to the *Ohio*

McCullough, F E surgeon ordered to the *Pensacola* and to duty at the Naval Training Station San Francisco

Kennedy, R M, surgeon, detached from the *Dixie* and ordered to the *Missouri*

Lovering, P A surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington D C, October 3

Ferebee N McP medical director, sick leave extended three months from September 20

Marine-Hospital Service

List of changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ended Sept 21, 1904

Gassaway, J M, surgeon detailed to represent the Service at the meeting of the Association of Military Surgeons at St Louis October 10-15

Carmichael D A surgeon, granted leave of absence for one month from October 18

White J H, surgeon granted leave of absence for six days from September 19

McIntosh, W P surgeon, to proceed to Stonington, Maine for special temporary duty

Woodward, R M, surgeon, Department letter of May 13 1904 granting leave of absence for three months amended to read two months and twenty six days from June 14

Stoner J B, surgeon, to proceed to Cape Charles Quarantine Station and assume temporary charge during the absence of Asst. Surgeon J S Boggess, granted leave of absence for eight days from September 26

Wertenbaker, C P surgeon on being relieved from duty at New Orleans La by P A Surgeon A C Smith to proceed to the Immigration Depot Ellis Island, N Y and report to Surgeon G W Stoner for duty

Smith A C, P A surgeon on being relieved from duty at New York (Stapleton) by P A Surgeon J A Nydegger to proceed to New Orleans La, and assume command of the Service relieving Surgeon C P Wertenbaker

Nydegger, J A P A surgeon relieved from duty at the Immigration Depot, Ellis Island, N Y effective Oct 1 1904 and directed to proceed to New York (Stapleton and report to the medical officer in command for duty and assignment to quarters relieving P A Surgeon, A C Smith

Foster M H, P A surgeon granted extension of leave of absence on account of sickness for thirty days from September 18

McLaughlin, A J asst surgeon, granted leave of absence for twenty four days from October 3

Hamilton, H T, A A surgeon granted leave of absence for thirty days from October 1

Richardson S W, pharmacist relieved from special temporary duty in connection with the Louisiana Purchase Exposition at St Louis and from duty in the Hygienic Laboratory Washington D C and directed to proceed to Boston Mass and report to the medical officer in command for duty and assignment to quarters

LaGrange J V pharmacist Department letter of Aug 30 1904 granting leave of absence for twenty three days from September 15 revoked

Keen, W H, pharmacist, Bureau order of Aug 26, 1904, directing him to proceed to Boston revoked and directed to proceed to Chicago and report to the medical officer in command for duty and assignment to quarters

REINSTATEMENT

Bierman, C H, New York reinstated as pharmacist of the third class

BOARD CONVENED

Board convened to meet at Stapleton N Y Sept 10 1904 for the physical examination of an officer of the Revenue-Cutter Service Detail for the board P A Surgeon A C Smith chairman P A Surgeon C H Lavinder recorder

Health Reports.

The following cases of smallpox, yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine-Hospital Service, during the week ended Sept 23 1904

SMALLPOX—UNITED STATES

Illinois Chicago Sept 10 17, 14 cases 2 deaths
Louisiana New Orleans, Sept 10 17, 1 case (imported)
Massachusetts Sept. 10 17, Lawrence, 1 case, North Adams 9 cases
Michigan At 41 places Sept 3 10 present
Minnesota Morrison County Sept 6-13, 1 case
Missouri St Louis Sept 10 17, 11 cases
New York New York City, Sept 10 17 2 cases
Pennsylvania Philadelphia, Sept. 10 17, 1 case, 1 death
Rhode Island Providence, Sept 10 17, 1 case
Tennessee Sept 10 17 Memphis, 1 case Nashville 2 cases
Wisconsin Milwaukee Aug 27 Sept 17, 6 cases

SMALLPOX—FOREIGN

Belgium Antwerp, Aug 27 Sept 3, 1 case
Borneo Brunai Aug 8, epidemic
Brazil Pernambuco Aug 17 31 28 deaths
China Hongkong July 30 Aug 6 2 cases.
France Paris, Aug 27 Sept 3 20 cases, 1 death
Great Britain Bradford July 31 Aug 27 9 cases Aug 27 Sept 3, Bristol, 1 case London 2 cases, Manchester 2 cases Newcastle on Tyne 3 cases West Hartlepool 2 cases, Glasgow, Sept 2 9, 2 cases, 1 death Leeds, Sept. 3 10 1 case
India Bombay, Aug 16 23 1 death
Italy Palermo, Aug 27 Sept 3 9 cases 2 deaths
Russia Moscow Aug 16-23 7 cases 2 deaths Odessa Aug 23 Sept. 3 7 cases, St Petersburg Aug 20 27 2 cases 4 deaths
Turkey Beirut Aug 20 Sept 3, present Constantinople Aug 28 Sept 4, 6 deaths

YELLOW FEVER.

Mexico Coatzacoalcos Sept 3-10 7 cases 2 deaths Sept 4 10 Merida 1 case Tehuantepec 1 death Vera Cruz, Aug 27 Sept 10 16 cases
Panama Panama Sept 5 12 1 case 1 death

CHOLERA

Borneo Kudat, Aug 19, present
India Bombay Aug 16-23, 12 deaths
Turkey Bagdad vicinity, July 23-Aug 6 844 cases 1,023 deaths.

PLAGUE

China Hongkong July 31 Aug 6 13 cases, 12 deaths
Egypt Aug 13 20, 10 cases, 7 deaths
India Bombay, Aug 16 23, 70 deaths, Karachi Aug 14 21, 4 cases, 2 deaths
Japan Formosa July 23 Aug 6, 21 cases 27 deaths
Turkey Smyrna, Sept 8, present

Society Proceedings.

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION Portland, Ore, July 11 14 1905

Colorado State Medical Society, Denver, October 4 6
Idaho State Medical Society, Lewiston, October, 6-7
Tri State Medical Society of Alabama Georgia and Tennessee, Chattanooga October 12 14
Assn of Military Surgeons of the U S, St Louis October 10-15
Mississippi Valley Medical Association, Cincinnati, October 11 13
Vermont State Medical Society Rutland, October 13-14
New York State Medical Association, New York October 17 20
Medical Society of Virginia, Richmond, October 18-21
American Confederation of Reciprocating Examining and Licensing Medical Boards St Louis October 25, 1904

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Seventeenth Annual Meeting, held at St Louis, Sept 13 16, 1904

(*Continued from page 907*)

Operative Treatment for Painful Menstruation in Young Virgins.

Dr William A B Sellman, Baltimore, pointed out the great necessity of giving relief to young unmarried women who suffered from painful menstruation The forms of dysmenorrhea that could be relieved by operative means were expatiated on at length These means should not be of a character to unsex the patient nor prevent her from bearing children or from fulfilling her marital relations The operation should not be one which will endanger life or interfere with the woman s general good health To illustrate the condition and to demonstrate the manner in which cases could be operated on without unsexing the individual and giving absolute relief from the suffering experienced, he related the following case on which he operated in the early part of June, 1904 Miss H, aged 24, a brilliant vocalist, with a register of three octaves, had been unable to use her voice with any satisfaction for a long period on account of the pain developed in the ovarian region when attacking the high notes June 7, 1904, under ether anesthesia, the endometrium was curetted and a quantity of congested tissue removed from the cavity of the uterus He then made an abdominal incision in the median line, and found both ovaries hyperemic and distended Upon the left side he opened three good sized cysts and on the right side two medium sized cysts He enucleated these with a sharp spoon curette and scraped the walls in order to destroy the membrane He closed the openings with catgut sutures and used the same material to close the opening in the abdominal wall The patient made an uninterrupted and rapid convalescence, and had not had the slightest amount of pain in the ovarian region, and no pain during two menstruations which she had passed through since the operation He thought very many gynecologic surgeons would have removed both ovaries under these conditions and the result would have been the unsexing of the patient and probably the loss of her voice, especially in the upper register He had heard her sing, and was certain that her voice had not been impaired Two physicians present during the operation expressed the opinion that no relief would follow the operation unless he removed the appendages Resection of the ovary was followed by such successful results that one was not justified in removing the organs unless the complications present gave no opportunity to perform the conservative opera tion Lastly, he spoke of that class of cases in which dysmenorrhea was due to a general systemic neuralgic condition In these cases one at times afforded great relief by the use of the various forms of electricity It was doubtful in many of the cases whether removal of the appendages would accomplish anything more than to bring about a premature menopause, and the patient would remain just as nervous as before operation

DISCUSSION

Dr. H. W Longyear, Detroit, Mich, stated that in operating, if one could save an ovary or part of an ovary, he should do so In the majority of cases, one could conserve tissues there with perfect safety and with the result of allowing the woman to menstruate as she would in a normal condition He would enter a protest against operating on cases of dysmenorrhea that were of short duration in young persons One should not suject any unmarried woman to an operation if it could be avoided The minor cases of pain of short duration did not need operative measures

Dr. Herman E Hayd, Buffalo, N Y, alluded to the importance of examination in these cases, and even after an examination was made one might find that the most distressing cases were the ones that practically had no evident pathology, which could be made out by such an examination If on examination one should find a retroverted uterus, a prolapsed ovary, a tender sensitive tube, then there was a rational basis on which to work, but simply because a woman had a small os it did not follow that she was going to be the subject of dysmenorrhea, because in all probability most of these cases were simply due to an impoverished condition of the whole system They were simply functional troubles, and had to be met accordingly If, however, there was an obstructive dysmenorrhea, and usually these cases were associated with an atrophic condition of the uterus, probably one could institute some operative measures, and the interference which had been most successful in his hands had been dilatation and the wearing of a stem pessary

Dr. William H. Humiston, Cleveland, Ohio, stated that dysmenorrhea was a common disturbance, and yet he had not been able to find a case that was not accompanied by an inflammatory condition of the mucosa He had seen cases of narrow, conical os, with the patients menstruating without the least sign of distress, but the moment there was an inflammatory condition of the mucosa added, that moment the patients began to have painful menstruation In cases of this kind he thoroughly dilated the uterine cavity, curetted, and had the patients wear an Etheridge pessary, closely watching them for several months, and if there was no accompanying disease of the appendages, the cure was decided and complete In these cases occasionally one would have a failure because of not recognizing an ovary which was smaller than normal, the cirrhotic ovary, which was hard to detect unless an examination was conducted under an anesthetic, and there was no relief afforded except by the removal of these shrivelled, corrugated, smaller than normal ovaries

Dr. D Tod Gilliam, Columbus Ohio, spoke of the undeveloped condition of the uterus as a cause of dysmenorrhea. A great many men had come to the conclusion that it was not a superficial condition, it was not produced by the condition of the mucosa, as a rule, nor the result of stenosis of the internal os or of many of the other orifices of exit, but was due to the undeveloped, unripe condition of the uterine tissues The uterine tissues were just like unripe fruit, and one of the functions of the uterus was to throw off this membrane at stated intervals, and in doing so there were certain physiologic processes that must work their way or be concerned therewith The time for the casting off of this membrane was at the menstrual period, a time when this membrane would easily come away, but which could not be removed at any other time without more or less violence. Vessels permeated this dense structure, these vessels were undeveloped, they were unable to accommodate the amount of blood sent there during the menstrual molimen, and this induced distress The membrane closely adhering to the uterine wall was not ready to be exfoliated hence it was a source of distress

Dr. John Young Brown, St Louis, Mo, said that his experience in dealing with cases of painful menstruation was that unless there was a palpable pathologic condition present, it was better to leave them alone In looking up the etiology of pelvic disease, he had found in a rather extensive operative experience that the majority of cases that came to operation were of gonorrheal or puerperal infection, and those cases that came as the result of infection following minor office gynecologic procedures He did not feel that a young woman who suffered from painful menstruation should be subjected indiscriminately to operative treatment or even to a gynecologic examination

Dr L H Dunning, Indianapolis, said that one ought not to approach any case of dysmenorrhea without studying the surroundings very carefully He should have a complete and thorough history of the case in order to be able to determine the character of the lesion which was present before undertaking the treatment of the case He had been surprised in studying the collected histories of some two thousand cases to find that in about 15 per cent of them there was dysmenorrhea at the beginning of menstruation This, he thought, would go to disprove one statement made by the essayist, that nearly all of the cases were due to inflammation, or that most of them were due to gonorrheal infection or some other kindred infection In the majority of cases in which dysmenorrhea began with menstruation, he thought one would find some errors in the development of the organ or errors in the development of the nervous system which would lead to painful menstruation Every case should be studied carefully on its merits Some would be found to be due to nervous conditions, others to hyperemia of the ovaries, and still others to venous congestion of the pelvic organs, including the uterus and ovaries Obviously, all of these were not cases demanding operative procedures

Dr. Sellman stated that the object of his paper was to prevent, if possible, this suffering to women which came on about thirteen times a year He thought that if any member of the Association had to undergo or endure the pain from which some of these patients suffered, even for only six times a year, he would seek some means of relief He did not use instruments in all cases, but only in those cases where a gristly condition existed

Pseudo-Membranous Monocystic Tubercular Peritonitis

Dr. H W Longyear, Detroit, said that pseudo membranous monocystic tubercular peritonitis was that form of tubercular peritonitis which was characterized by the formation of a thick, white, fibrinous, pseudo membrane on all of the tubercular peritoneum, covering the parietal peritoneum and cementing together and covering the intestinal coils in such a manner as to form a sac of greater or less capacity, according to the progress of the disease, which contained straw colored fluid, with occasionally jelly like masses and shreds floating therein He reported three cases of this affection, and stated that the treatment consisted of abdominal section, with evacuation of fluid and the thorough washing out of all shreds and gelatinous masses, with normal salt solution, thorough drainage by glass or rubber tubes, both abdominal and vaginal This was to be followed by after treatment consisting of frequent lavage, with a weak aqueous solution of iodin (tincture iodin, 1 dram, water, 1 pint), until the pseudo membrane was disintegrated and the purulent discharge that followed had ceased Internally, the rational treatment of tuberculosis, consisting of the use of creosote, cod liver oil, etc, a supporting diet, and suitable hygienic surroundings The prognosis was bad, although a few cases might recover, if not too far advanced, after months of constant drainage and careful nursing

DISCUSSION

Dr. Rufus B Hall, Cincinnati, said he differed from some writers in regard to the different varieties of tubercular peritonitis He was of the opinion that it was tubercular peritonitis in different stages of development In dealing with the operative treatment of tubercular peritonitis, ultimate success depended largely on the variety of the disease, the general condition of the patient, the previous history, the great prostration, etc Very many were in such a condition that they could not withstand much trauma of any kind The greatest relief was to be afforded to those cases in which there was an accumulation of cysts by letting out the fluid and draining He had time and again made section when the patients were in a desperate condition, put in a drain, and in six months or a year later the patients returned, when he removed one or two infected tubes, and cured them, whereas if he had done a prolonged operation at the outset, with the patients in a feeble condition, and unable to withstand trauma, they would not have rallied

Dr L H Dunning said there were two or three questions which ought to be settled in regard to the treatment of cases of encysted tuberculosis of the peritoneum First, as to whether one ought to remove the fallopian tubes in all instances He believed we should He believed that all cases of encysted dropsy, where the fluid accumulated in the pelvis, as described by Dr Longyear, were dependent on infection of the tube, and it ought to be removed or a fistula would persist indefinitely Another question was with reference to drainage He was in accord with both Dr Longyear and Dr Hall that these cases ought to be drained through the abdominal wall They need not be drained through the vagina if one could possibly drain them in the other direction Should one in these cases attempt to break up the adhesions? Dr Price had insisted on breaking up adhesions in all cases of tuberculosis of the intestines, but he believed that this pseudo membrane, which was an adventitious membrane thrown out, was protective, was conservative, on the part of nature, and that one ought not to attempt to separate adhesions Another point was whether we were justified in attempting to shorten convalescence in these cases by curettement In three of his own cases he had curetted sinuses and packed with gauze to the bottom of the cavity, and had had three recoveries In one instance there was a wide invasion in the abdominal wall and pelvis, and with a great deal of timidity he used the curette, but did it carefully, and packed This was followed by healing of the fistula within a short time

Dr Herman E Hayd Buffalo, N Y, said that usually those cases with simple effusion, or dropsy which was circumscribed, got well if opened and the opening immediately closed One did not need to disengage bowel nor disturb the adventitious membrane Simply the entrance of air was an important factor in the cure of these cases If there was pathology such as had been pointed out by the essayist, it was necessary to drain However he did not agree with Dr Hall that all cases of tubercular peritonitis should be drained, as his own experience did not bear that out

Dr J Henry Carstens, Detroit, thought that all that was necessary in ordinary simple, encysted cases of this condition was to wash them out and let them alone One should not try to break up adhesions, as serious complications might follow In tubercular peritonitis the patients should be let alone as much as possible, and Nature given a chance He said if he operated on a case of tubercular appendicitis and drained it, he would get trouble because along the track of his drainage tube there would be tubercular deposits and he would have a fistula there for a long time On the other hand, if he took out the appendix, closed up the opening with silkworm gut sutures *en masse,* tightly, he would have union without the formation of a fistula

Dr D Tod Gilliam did not believe in too much interference in cases of tubercular peritonitis, or in such cases as had been described He thought many of these patients would be better without operation if their cases were diagnosed accurately beforehand In some cases of encysted tuberculosis he did not care whether the contents were merely washed out or not, by one method or another one was likely to have bad results There were other forms of encysted tuberculosis, however, in which one did not have these bad results, and in such cases it was necessary to open up the cysts He did not believe in breaking up adhesions and separating viscera

Dr Longyear did not believe that a case of simple tubercular peritonitis, with a large cyst, and the abdomen full of dropsical fluid, needed to be drained, but agreed with Dr Hayd that all that was necessary to do was to open it, wash out the cavity, sew up the wound, and the patient would get well Many of them, however, would have a reformation of the fluid

Chronic Adhesive Peritoneal Sclerosis.

Dr N Stone Scott, Cleveland, Ohio, stated that among the rarer abnormal conditions found within the abdomen, was one peculiar, interesting, and possibly more frequent than had heretofore been suspected This condition was progressive, yet was characterized by an absence of active symptoms, including ascites In the early stages the peritoneum was rigid and contracted, later the connective tissue became excessively hypertrophied, with adhesions between the involved peritoneum and all viscera with which it came in contact As soon as these adhesions interfered with the functions of any organ, symptoms referable to such interference supervened. When the involvement prevented some important organ from performing its necessary functions, death ensued

In an illustrative case cited by him only a circumscribed portion of the peritoneum (the pelvis) was affected

The Relative Value of the Means and Methods Employed in Accouchement Force

Dr E Gustav Zinke, Cincinnati, Ohio, read a paper in which he drew the following conclusions 1 The graduated steel or vulcanite dilators and the ordinary branched or bladed dilators were mainly employed for the purpose of dilating the cervix or os preparatory to digital, manual and bag dilatation 2 The bag or hydrostatic dilators, of which the Champetier de Ribes balloon and its modifications were the most favored, should be employed only when time was not an important element in the case, when the cervix was thoroughly softened partly or entirely effaced, and an easy introduction of the balloon possible This was contraindicated in central placenta previa, and in eclampsia, mild or severe If, in these cases, it was determined to empty the uterus, deep cervical incisions, vaginal or abdominal hysterectomy, promised the best results for mother and child To prevent continuation of the cervical incision a suture might be placed in the upper angle of the wound 3 The manual dilatation of Harris and the bimanual (digital) dilatation of Bonnaire and Edgar A soft and partially obliterated cervix and dilatable os were absolute prerequisites for this variety of uterine dilatation It was to be preferred when time constituted an important element Under this method the life of the fetus was often lost and, unless great care was observed, sepsis, lacerations, hemorrhage, profound shock and sometimes even death of the mother might occur 4 Deep cervical incisions and Duhrssen's vaginal hysterotomy were destined to play a permanent and important rôle in the management of forced labors in the future Many of the cases now subjected to manual or balloon dilatation would be treated by cervical incisions It was the method in the presence of sepsis of the vagina, because the operation was short in duration and could be performed under a continuous flow of an antiseptic solution An intact cervix, whether hard elongated or not, was always an indication for cervical incision Vaginal hysterotomy was indicated principally when the cervix was the site of malignancy or extensive cicatrization If there were a palpable difference between passage and passenger, the conservative cesarean section should be the choice of operation 5 The indications for the conservative cesarean section had been well defined in previous papers and it was needless to repeat them Cervical incisions and Duhrssen's operation would however, take its place in many instances notably in cases of marked prematurity 6 The Bossi and similar metal dilators, if they were not entirely needless, were certainly very dangerous instruments From what had been said it was safe to predict that rapid and complete metal dilatation would never become a popular method, that sooner or later it would receive universal condemnation and thus reach its final and well deserved destination—the lumber room of obstetric instruments

DISCUSSION

Dr. Henry Schwarz, St. Louis, was glad to hear Dr Zinke's experience in reference to Duhrssen's vaginal cesarean section, because personally he had had no experience with that method He could conceive of exceptional cases of eclamptic convulsions or of placenta previa in which cesarean section might be justifiable in proper hands and under proper surroundings As a rule, in eclamptic convulsions Duhrssen's method should be the one of choice, and there could be very few exceptions where conservative cesarean section was indicated No one would maintain in a case in which the placenta was eccentric, marginal or low seated, with hemorrhage, that cesarean section should be resorted to Whenever one made a diagnosis of central placenta previa, the cervix was so far dilated that no one would think of doing anything except to deliver the child through the natural way He thought Bossi's dilator had a limited sphere of usefulness

Dr James F W Ross, Toronto, Ontario, said he had done cesarean section three times, in each case with the recovery of the mother and the loss of the child The question between cesarean section and the Porro operation had been pretty well settled and the conclusion reached that the Porro operation, when cesarean section failed enabled one to control hemorrhage The last Porro operation he did was in a case reported to the society where a woman delivered herself up through the vagina into the abdominal cavity, and the fetus and placenta were forced through an enormous rent in the posterior vaginal cul de sac In this case he did a Porro operation to control hemorrhage He had operated on two cases of rupture of the uterus with recovery, after having performed the Porro operation, by gauze packing, and he thought this operation in these cases should not be adopted unless there was hemorrhage that could not be controlled

Dr O J Elbrecht, St Louis spoke of Duhrssen's incisions, saying that he had had three or four of these cases, in which he had resorted to Duhrssen's incisions with good results

Dr J Henry Carstens called attention to the point that many practitioners were too anxious to dilate the cervix in the class of cases under discussion He had seen them use rubber dilators and dilators of all kinds in working around the uterus for two or three days at intervals, and then finally had to send for someone to help them out of difficulty Such practitioners wanted to know whether they should do this or do that In some cases, after he had been called in consultation, he had found that the women were not in labor at all He thought many of the members of the society had had similar experiences It was a mistake to suppose that because a woman had a little pain at the approach of labor that she was actualy in labor

Dr Eugene J Brown Stanford, Ky, said in these days of aseptic surgery with the results we are having with mechanical and manual dilatation, cesarean section would become more popular and evidently in selected cases more lives to both mother and child would be saved than by other methods He had the pleasure of witnessing the operation by Dr Deaver, referred to in the paper It was performed on February 23 of this year The simplicity and ease of the operation impressed him very deeply The mother and baby got along without any trouble

Dr M W Meyer Columbia Mo spoke of the use of the Bossi dilator While he admitted there were many men who used this instrument, and recommended its use in cesarean section those who were not radical in the matter had determined that it was not an instrument to be used in such cases In fact, one had to go back to the old methods of delivery in cases of placenta previa, namely, to resort to the use of tampons One could accomplish more with them than in any other way

Dr Zinke said that whatever he may have said or written in the past on this subject and presented to day came from a motive simply to do good in the future, and to get rid of a certain method of practice in obstetrics which had been the means of rendering families unhappy and because he honestly believed that there was great room for improvement in this practice in spite of all that had been said against it

Vaginal Cesarean Section in Grave Cases of Puerperal Eclampsia

Dr J Henry Carstens, Detroit, said that mild cases of puerperal convulsions ordinarily could be controlled by the treatment generally advocated for this class of cases, but that there was a serious, grave form of puerperal eclampsia where one convulsion followed another in quick succession, and the patient finally died in spite of ordinary, and sometimes even heroic treatment This severe variety of eclampsia could generally be subdued by immediate delivery This was accomplished generally by manual dilatation, the use of powerful steel instruments, like that of Bossi, but what was better still was the operation called the vaginal cesarean section, which enabled the obstetrician to deliver the woman in about five minutes with little or no danger In conclusion he stated that 1, in grave puerperal eclampsia, as a rule, prompt delivery will save the patients, 2, that manual effort with the fingers and the hand was too slow, 3, powerful steel dilators were not always at hand, and often caused serious injuries 4, vaginal cesarean section enabled the obstetrician to quickly and safely deliver the woman

An Unusual Case with Many of the Symptoms of Appendicitis.

Dr Magnus A Tate, Cincinnati, narrated this case which was of interest because 1 It presented an unusual history 2 The symptoms and history of the case following scarlatinal nephritis led him and others to suppose that probably they were dealing with a case having appendicitis as a complication 3 The patient urinated regularly and at no time was there a dribbling of urine 4 The presence of adhesions and the enlarged bladder with its thick walls had only problematical causes, not explained satisfactorily by the history of the case

The patient, a boy aged 7 was attended by Dr I Linss of Cincinnati for an ordinary attack of scarlet fever from Feb 25 to March 18, 1904 March 21 Dr Linss was called to see the boy on account of a swelling of the feet and hands On the morning of April 1 all edema had disappeared, urine highly colored, but normal in quantity, with no sugar, albumin or casts That afternoon the patient had a chill, vomited, and was suffering with a pain in the abdomen Temperature, 99 5, pulse, 90 April 5, the patient had two more attacks of vomiting Pain in the abdomen was constant, and he had not slept for twenty four hours, temperature 102, and pulse, 130 Dr William Johnson saw the case with Dr Linss, and on examination of the abdomen they found an uneven swelling which extended to the umbilicus and over the right lumbar region On palpation exquisite tenderness over the appendix was elicited A diagnosis of appendicitis was made, but further consultation was asked for The next day April 6, Dr Tate was called When he saw the patient, six days after the initial vomiting spell and chill, the child had been crying and moaning day and night, and could not sleep, temperature, 102, pulse, 132, very irregular, abdomen swollen, especially on the right side, and such marked tenderness that the child screamed if the slightest pressure was made over the region of the appendix Bowels constipated and the urine highly colored The following day there was no improvement, the pulse even worse, temperature remained at 102 Before placing the child on the operating table a bed pan was placed under him and he passed nearly a pint of urine Chloroform was administered, and an incision was made on the right side two inches in length, over the most prominent portion of the swelling It revealed a dark colored sac and a number of adhesions The incision was lengthened to three inches Some adhesions were broken down with the finger, but a few of them were so firm that they had to be cut The enlarged opening gave a field of about two inches to work in, and the sac in appearance was not unlike that of a gangrenous bowel They were at a loss to say exactly what it was, and as adhesions limited the field, gauze was packed about the opening, the child turned to the right side, and a half inch cut was made into the sac A dark green fluid spurted out which had a strong, heavy odor of stale urine About two quarts of fluid was evacuated and the finger into duced into the sac, which proved to be the bladder The opening in the bladder was sewed up, adhesions binding the bladder on to the abdominal wall and on the right side to the large and small intestines were broken up, and the enlarged thick walled bladder dropped back into the abdominal cavity The appendix and appendiceal region, except for the presence of some adhesions, were normal An opening was left in the abdomen for gauze drainage, and the rest of the wound closed up The subsequent history was that the bladder was emptied by means of a retention catheter for forty eight hours, after that catheterization night and morning for three days There was a gradual decrease in pulse and temperature, and in seven days both were normal On the third day a quantity of fluid drained out through the opening, but this gradually ceased, and on April 23, sixteen days after operation, the abdominal wound had closed, and the patient is now in good health

Gunshot Wound of the Abdomen

Dr John D S Davis, Birmingham, Ala, reported a case of gunshot wound of the abdomen, with eighteen perforations, in which he resorted to intestinal resection of five feet seven inches, with use of the metal button, followed by recovery of the patient. The patient, a woman, 23 years of age, while attempting to place a rifle in the rack on the wall, the gun was discharged with the muzzle about eight inches from the abdomen The bullet, a 32 caliber, entered in the median line mid way between the umbilicus and the symphysis pubis, ranging backward, upward and to the right, and was deposited in the muscles of the back on the right side The ball in traversing the abdomen made eighteen perforations of the gut, and two cuts in the intestine that went to the mucous membrane Sixteen of the perforations and the two sero muscular wounds were in the small intestine, and two perforations in the transverse colon The bullet cut two mesenteric arteries, which caused a large amount of blood to collect in the abdomen Patient was shot at 4 30 p. m, Feb 2, 1904, and was brought a distance of eighty miles on a freight train to Birmingham, by her physician, Dr W O Watson, and carried to Hillman Hospital At 9 o'clock Dr Davis saw the patient and had her prepared for section Temperature at this time was 102, and pulse 130 She probably had fever at the time she was shot A seven inch incision was made in the median line, a large quantity of blood turned out, and the bleeding vessels controlled by hemostatic forceps The two perforations in the transverse colon were so near the mesenteric border that he stripped up the mesenteric serosa and turned the mesenteric border in as though the two openings, one on each side, had been one large opening, including mesenteric border, and closed with interrupted silk sutures He then brought the mesenteric folds back and sutured over the wound Four perforations and two sero muscular cuts in the small intestine were turned in and closed with small loop silk sutures Two perforations were situated so close together that they had to be closed by flexing pouching or looping the mesenteric border, the bowel being bent on its convexity so that the two wounds could be closed as one large wound by interrupted longitudinal loop sutures—suture with axis of bowel There were two other perforations that could have been closed by suture, but the openings were between two mesenteric perforations on one side and eight on the other, and he thought it better to lose one more foot of intestine than to do two resections He resected that part of the intestine containing the ten mesenteric perforations (sixty seven inches), including the two large perforations in the convexity of the ileum and closed with the third sized metal button The resected bowel and its mesentery were removed, the vessels ligated, and the gap in the mesentery closed with interrupted silk sutures The abdomen was flushed with hot normal salt solution plain gauze drainage was used, and the abdomen closed with through and through silkworm gut sutures The operation lasted one hour and a half Drainage was removed on the second day Patient passed the button on the twenty first day and left the hospital March 1, 1904 A week later she was doing housework, and was perfectly well

(*To be continued*)

Miscellany.

TRAVEL NOTES

OUR POSSESSION IN SAMOA FROM A MEDICAL STANDPOINT

NICHOLAS SENN, M D

CHICAGO

Auckland, New Zealand, July 25

We landed at Pago Pago on Thursday, July 21, at 6 30 a m The natives were on hand to welcome us, and many a greeting was expressed in the euphonious word "*talofa*" (love to you) The moment the ship was anchored in the harbor a fleet of canoes surrounded it and their brown inmates in native attire—men whose only garment was a breechcloth, women in the loose, comfortable Mother Hubbard calico dress, children with no clothing incumbrances of any kind, all of them with a copious growth of jet black long curly hair freely exposed to sun light and breeze, with upturned faces and large, gentle, imploring coal black eyes—were soliciting patronage for the products of their charming island Gaudily painted tapa cloth made of the bark of a tree, coral beads, baskets of various designs and sizes, shells and tropical fruits were the principal articles offered for sale The competition between the dusky vendors was not a spirited one, it made little difference who reaped the greatest profits, as in a short time the gain of the morning's sales, according to the customs of the island, would soon be shared equally by all Our time in the harbor being limited to a few hours, I was very anxious to improve every minute in studying the resources of the island, its people and their diseases By previous appointment I was met on board by Dr H E Odell, P A Surgeon U S Navy, the medical officer of the training ship *Adams*, now in the harbor (Fig 1) To this officer I am greatly indebted for many charming courtesies and most valuable information He took me ashore at once in the government launch and on landing introduced me to Chief Pan Pan of the village Aua, who happened to be present, a man highly esteemed by the natives and whites for his excellent character and good judgment His distinctive dress consisted of a long white coat, with shoulder straps of the same color with a narrow border of blue His whole bearing impressed one with the dignity of his office and firmness of his character From the time we entered the harbor until we reached the shore I had looked in vain for the American flag I saw the bare, tall pole in front of the custom house and was wondering what had happened in international politics since I left San Francisco, that it should have been stripped of our colors The information came without asking any questions A few minutes after landing a motley crowd gathered around that pole and presently I had the pleasure of witnessing the hoisting of the American flag (Fig 2) This is a ceremony that takes place every day at 8 o'clock in the morning The moment the Stars and Stripes reached the lofty destination, fluttering in the fresh morning breeze, the native band played our national airs, "My Country, 'Tis of Thee" and "Star Spangled Banner," and the mountains re echoed the strains of the stirring music so dear to the heart of every American The ceremony was an impressive one The native guard, composed of 72 picked men magnificent specimens of physical development, wearing a red turban white sweater and blue trousers, stands at attention with arms at rest The crowd of people, including many children, stood motionless not a word being spoken until the last strains of the music had died away in the soft, balmy air of the tropics when the guard shouldered their arms and marched away to their respective posts of duty in a truly soldierly manner and the crowd dispersed as quietly and silently as it had gathered This beautiful ceremony reminded me that I was on American soil in the midst of the vast trackless Pacific ocean, nearly 5 000 miles from the western limits of the United States

SKETCH OF THE HISTORY OF THE ISLANDS OF SAMOA

Not all the people of the United States are aware of the fact that the beautiful island of Tutuila of the Samoan archipelago is one of our ocean possessions and very few know how it was acquired In making inquiries among officers and passengers of the *Sierra* regarding this subject I became satisfied how little there is known about it The history of Samoa, especially the recent part of it, leading up to the time Tutuila was ceded to the United States, is a very interesting one and does not reflect much credit on some of the foreign powers, especially Germany The extent to which Germany meddled with Samoan affairs and the fact that she now owns the two largest islands, Savaii and Upolu, are matters difficult to explain The recent history of Samoa is a tangle difficult to unravel without losing the thread owing to the rapidity of succession of events caused by contending internal political factions, complicated by outside interference Space will permit me only to give a few outlines The Samoan archipelago, composed of not less than fourteen volcanic islands with numerous adjacent islets lies nearly east and west between the parallels 13 31′ S and 14° 31′ S, and longitude 172 45′ W and 168 9′ W The last volcanic eruption occurred in Savii in 1866 The islands were first seen by Roggeveen, but their discovery is generally accredited to Bougainville, who came there in 1768 and stocked them with domestic animals He called them Navigator Islands It is supposed that the islands became populated by Polynesians migrating eastward from Sumatra, via the Philippines and Hawaii by a party of less than fifty in seven canoes Two hundred years later the Tongans invaded the islands and, with the aid of Fijians drove the Samoans into the mountain retreats The hardships endured by constant persecution served to strengthen the Samoan forces, who finally gained the upper hand and cleared the two largest islands, and later all of them, of the invaders Cannibalism was introduced by the Tongans, but was abandoned before the arrival of the explorers The missionaries came in 1833 and one of the first fruits of their indefatigable labor was the conversion of Malietoa, one of the most powerful chiefs, who was christened Davita This event gave rise to a religious wave which soon reached the different islands

Frequent strifes between the different islands and tribes induced the natives to look to the United States as early as 1872 to establish order out of chaos by requesting our government to send Colonel Steinberger of New York as adviser Two years later President Grant granted the request The colonel soon improved the administrative affairs of the islands and had the full confidence of the natives His influence excited the envy of the British and in less than a year he was deported by a British warship, no protest being made by our consul and the unwarranted action had the full sanction of King Malietoa Laupepa. Insurrection followed and the king was deposed From now on the political events followed in rapid succession by the aggressive interference on the part of Germany Talavoa was elected king, but died after a short tumultuous reign and Laupepa again succeeded to the throne only to be again deposed in 1888, when he was exiled by the German fleet Insurrection under the leadership of Malietoa Mataafa again unsettled political affairs At one time the German English and American warships in the harbor of Apia were ready to clear the decks and begin war between Germany on one side against the other two powers, when the great storm swept them out of existence with the exception of the English gunboat *Calliope* Active interference on the part of the United States resulted in the Berlin conference, which declared in favor of Laupepa against the protests of the natives With the assistance of a German and British warship Laupepa defeated the forces of Mataafa near Apia in 1893, who shortly afterward surrendered to the British and was exiled to the island of Jaluit with twenty of his chiefs, where he remains at the present time On the return to power Laupepa abdicated in favor of Mataafa but European diplomacy again interfered and he remained on the throne After Laupepa's death in 1888 came the contest between the exiled Mataafa, who had the German influence, and Tana, the son of the dead king After a number of fierce contests the matter was referred to Chief Justice Chambers, who decided in favor of the heir to the throne Finally Admiral Kautz of the battleship *Philadelphia* interfered and insisted that both contesting parties should lay their claims aside England now withdrew from the contest, leaving the Germans and Americans in the field to dispose of the islands A satisfactory agreement was reached by which, on Nov 8, 1899, the two largest islands, Savaii and Upolu, were ceded to Germany, and Tutuila with its magnificent harbor became the property of the United States

OUR SAMOA ISLANDS

Out of the internal dissensions and whirlpool of foreign interventions arose for us, phoenix like, Tutuila, the most beautiful and, from a strategic standpoint, the most important of the Samoan Islands Pago Pago harbor is land locked, with an average of thirty fathoms in depth and sufficiently large to give protection to a fleet of from six to eight of the largest men of war, with a strip of land belonging to it amply large for government buildings, barracks and coal sheds The harbor is hemmed in by mountains on all sides, from 1,500 to 2,500 feet high, except the narrow gateway communicating with the ocean These mountains form a safeguard against any hurricane, no matter how severe it might be The entrance is so narrow that a few mines and a battery on the high hills on each side could keep the largest naval force at bay The island is 19 miles long and 230 in circumference A number of islets belonging to it and included in the treaty stretch along the same east and west line, the farthest about sixty miles away The main and adjacent islands are forest clad, without a bare spot in the dark green carpet, extending from the shores to the highest mountain peaks The primitive forests have never been disturbed, as the natives have had no use for timber either for themselves or barter The forests are dense, almost impenetrable, and some of the trees, especially at the very summit of the mountains, are of prodigious size and would yield hardwood timber of great commercial value. The rim of lowland at the base of the mountains, when it exists, and the valleys near the shore line, are covered with groves of cocoa palms and wherever a sufficient number of these trees are found a hut or a small hamlet of huts may confidently be looked for The volcanic formation of the entire island is covered with a thick layer of the most fertile black soil, as shown by the size of the trees, the luxuriance of the shrubs and plants and the abundance of nutritious grass The soil and climate are admirably adapted for the growing of coffee, cacao, taro and all kinds of tropical fruits

CLIMATE.

The climate of Tutuila is influenced by the unbroken, dense, virgin forest. We see here a very instructive example of what such forests are capable of accomplishing in the way of securing an adequate rainfall Drought is unknown The rainy season in the Samoan Islands is supposed to be during the first three months of the year, but in Tutuila it rains more or less throughout the year, rendering the atmosphere damp The rainfall last year, according to Dr Odell, reached nearly 200 inches Every ravine leading from the mountain heights to the sea has its rivulets or small rivers, which drain off the excessive moisture of the saturated soil, furnishing the inhabitants all over the island with a faultless water supply The climate is uniform, the tropical heat modified by sea and land breezes The temperature seldom rises above 85 degrees F and is rarely less than 72 degrees F although on rare occasions the thermometer has registered as low as 60 degrees F (Odell) The nights are generally delightfully cool The climate is, on the whole, very similar to that of Hawaii

THE PEOPLE

> 'They eat they drink and in communion sweet
> quaff immortality and joy"—Milton

The Samoans are a noble race, simple honest, affectionate peaceable and hospitable The men are splendid specimens of physical development, above average size, and with a courteous and noble bearing I observed several women who were close to the six foot mark and as erect as the poles of a bamboo thicket. I noticed that many of the women and some of the men had dark brown hair, which, I was informed, was the result of a process of bleaching with lime, done either with the

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intention of ridding it of its living inhabitants or for cosmetic reasons The women are rather fair looking when young, but lose their attraction before they reach the age of 30 by premature old age and obesity Tattooing among men remains as a national custom. It is done as a ceremony as soon as the boys attain virility and the field of operation corresponds with that part of the body covered by their only garment—the breechcloth—so that in the event anything goes wrong with this, the simplest and oldest dress, they should not appear entirely naked The operation is performed by experts, whose implements consist of a little fine toothed comb made of the tusk of the wild boar, which is fastened to a small stick in the form of a minute rake The teeth are dipped into the staining material, and with blows of a little stick on the blunt end of the comb they are made to penetrate deep enough to drive the stain into the deeper layers of the skin The operation is attended by great pain and lasts, according to the artistic designs employed, from five hours upward The lines of tattooing are exceedingly fine and the patterns are often quite artistic, as I had an abundance of opportunity to observe There is very little crime among the Samoans For four years there has been only one murder in Tutuila with its 6,000 inhabitants The whites never lock their doors What we look on as petty thefts, such as taking away without permission a loaf of bread, a fish or any kind of fruit, is not regarded in the light of crime by the childlike Samoan The next day the neighbor so treated will even up the account in a similar manner So far as the food supply is concerned, the Samoans constitute one great family, giving and taking as occasion may demand, and the stranger is always welcome to more than his share Family life is ideal The father rules supreme, old age is respected, the ties of relationship and friendship are strong No operation can be performed on a Samoan without a previous family council If the father is the patient the sons decide the matter, if any other member of the family is concerned the father alone has the power to object to or sanction the operation The bedside of the sick is never deserted by the immediate members of the family, and anxious relatives and friends are never far away

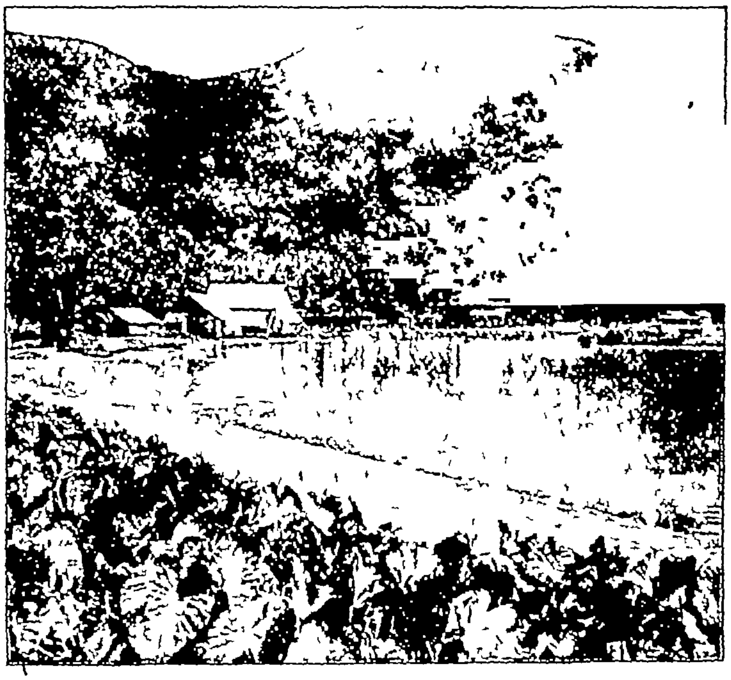

Fig 1 —Tutuila Samoa U S Naval Station

The educational advantages of Tutuila are as yet in their infancy, a defect which should soon be remedied, as the children are very fond of school work The Catholic Sisters have been here, and, as on so many other frontier lines, they are the pioneers in placing within reach of the ignorant children the means of obtaining an education They have opened a school in a village near Pago Pago, which is already filled to overflowing with the little dusky scholars All of the inhabitants are nominally Christians, but religion has failed to wipe out many traces of paganism There are very few legal marriages consummated The native custom still prevails Man and wife consent to live together, and continue to do so as long as the matrimonial sky is clear, but should anything occur contrary to the expectations of the husband the tie is severed by returning the wife to her parents or relatives The children are always provided for Unless other arrangements are made which are satisfactory to both parties, the sons remain with their father and the daughters accompany their mother

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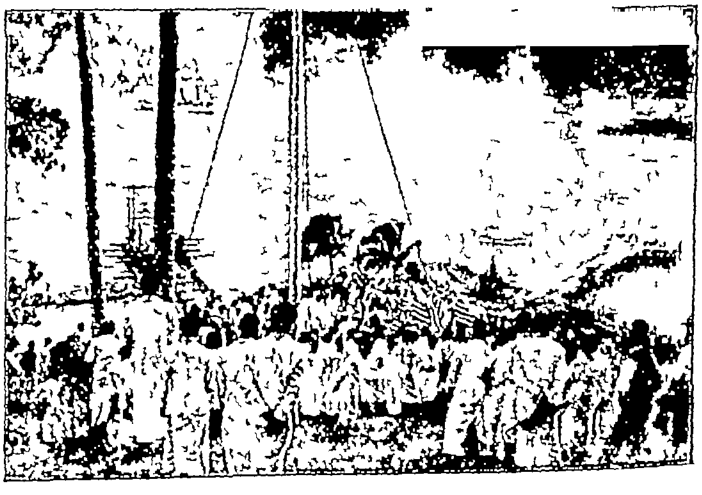


Fig 2 —Flag raising ceremonies

KAVA DRINKING

Kava is the national drink of the Samoans They have not, like our Indians, an ungovernable desire for alcoholic stimulants Kava is the fleshy root of *Piper methysticum*, a succulent plant about four feet in height, with large, long petioled leaves In propagating the plant all that is necessary is to break off one of the leaves at its point of insertion, including the bulbous base of the petioli, and stick it into the moist, rich, black soil Kava drinking is a ceremony Dr Odell was kind enough to give me an opportunity to observe this ceremony in all its details and to sample the product Whenever possible the drink is prepared by a young woman, who always regards the task as obligatory, as well as a privilege, if not of distinction The first young lady that passed Dr Odell's bachelor quarters was called in, and she went through the entire performance with a grace and elegance that showed that she was no novice in that part of her domestic functions Formerly the root, fresh or dried, was chewed by young women Now the dried root is crushed on a stone, and the coarse powder is placed into a shallow bowl of hard wood, supported on very short legs, the pride of every Samoan family, it is to them what the samovar is to the Russians After pouring cold water on the pulverized root it is stirred vigorously with both hands for about five minutes, when the straining is commenced with a swab of bark fibers, which is continued until all coarse particles are removed from the soapy looking liquid the entire time required being about fifteen minutes The liquid has a peppery, rather pleasant taste. It is served in cups of carved cocoanut shell This drink suits the place and climate better than any other beverage In larger quantities it produces a form of slight intoxication in moderate quantities it is a diuretic and slight soporific

NATIVE HOUSES

The natives remain true to their original architecture in the construction of their houses The houses are circular, open, the round dome like thatched roof resting on poles The rafters are made of the bread fruit tree, held together and fastened to the upright poles with an intricate lacework of bark and twigs The ground is covered with gravel The bed consists of tapa mats, and the pillows are bamboo sticks, as large as the arm of an adult, supported by props at each end, about four inches in height The cooking is done outside As there is no other furniture in the house the domestic duties of the female part of the family are certainly of the simplest kind The tapa cloth is made of the thick, soft bark of a tree, it is pounded into thin sheets, dried and painted in figures most pleasing to its future owner It is the principal article of barter, and its abundance or scarcity constitutes the wealth or poverty of the family These open houses and the frugal diet are most conducive to the preservation of the native's health Indoor air, combined with the inherent inactivity of the natives, could not fail in multiplying disease and increasing the death rate

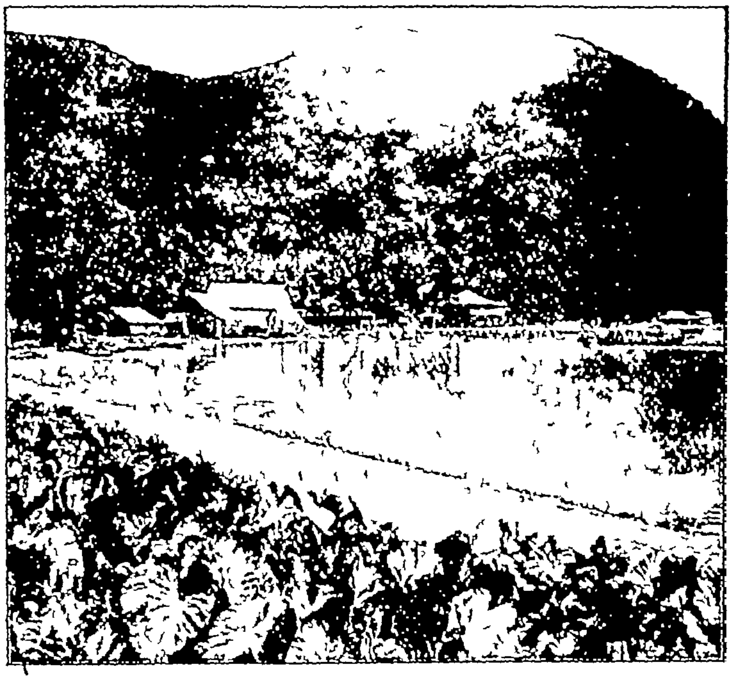
DISEASES

Samoa, like all islands of the South Pacific, has lost its full share of population from the effects of the infectious diseases introduced by the whites, notably measles, smallpox and tuberculosis Vaccination is now generally practiced by the naval surgeons, and the natives subject themselves willingly to this prophylactic measure The spread of infectious diseases among the natives is favored by their habits Their affectionate nature and the strong ties of friendship bring relatives, friends, communities and different villages in continuous and frequent contact with the afflicted, and in this manner infection is carried in all directions, and in a remarkably short time by progression from place to place will reach the most remote parts of the island. I imagine that any efforts to cut off free communication between the sick and well would appear as an infliction of cruelty to the natives, and would meet with their displeasure, if not persistent opposition It is this free intercourse among the people that accounts for the rapid spread of measles and other acute infectious diseases over the entire island The natives have absolutely no comprehension of the importance, much less of the necessity, of enforcing sanitary precautions

Tuberculosis affects most frequently the lungs, as this organ becomes most frequently predisposed by catarrhal affections, which are very common, next in frequency are the bones and joints, and lastly the lymphatic glands and intestinal canal Leprosy is unknown in Tutuila On the other hand, elephantiasis is very common It is estimated that of the male population over forty years of age 50 per cent are suffering from this disease It attacks in preference the lower extremities but not infrequently the upper become involved, and scrotal elephantiasis is by no means rare Dr Odell has operated on a number of cases of scrotal elephantiasis successfully, in which the mass removed weighed twenty and more pounds The disease is much more common in men than women, undoubtedly because they are more frequently the subject of lesions, which determine infection The disease is occasionally met with in children less than ten years of age, and not infrequently in young men at the age of twenty There are only about 50 whites in the island, and one of them, a German had been a resident for thirty two years He married a native woman and raised a large family of children He is now 57 years old, and contracted the disease twelve years ago It affected the right leg, pursued a somewhat acute course and recently a complicating affection of the knee joint made an amputation of the thigh necessary He made a good recovery and will leave the hospital in a short time for his island home This case, like so many others proves that a prolonged residence in a tropical climate renders the whites susceptible to infection Skin affections are very prevalent in the island, more especially ulcers of the leg The lack of clothing and footwear is undoubtedly largely responsible for this, exposing the parts to all sorts of mechanical irritation in walking through the dense bush and along the stony, pebbly shore These ulcers yield promptly to treatment by rest, and the local use of antiseptics Another common affection is the so called tropical abscess, a deep seated, somewhat subacute phlegmonous inflammation, attended by only slight constitutional disturbances It is undoubtedly the result of infection through surface lesions which are so common, that is, the entrance into the tissues of some mild form of pus microbe through a surface infection—atrium These abscesses heal very promptly after incision and drainage The frequency with which hydrocele is met with is attributed by Dr Odell to *Filaria sanguinis* infection, but he has encountered no difficulty in effecting a radical cure by the usual operative treatment Among the skin affections yaws figures very largely Dr Odell showed me a little girl suffering from this disease The lips and lower segment of the face were covered with very super

Fig 3—Tamasese Fine specimen of Samoan

intention of ridding it of its living inhabitants or for cosmetic reasons The women are rather fair looking when young, but lose their attraction before they reach the age of 30 by premature old age and obesity Tattooing among men remains as a national custom. It is done as a ceremony as soon as the boys attain virility and the field of operation corresponds with that part of the body covered by their only garment—the breechcloth—so that in the event anything goes wrong with this, the simplest and oldest dress, they should not appear entirely naked The operation is performed by experts, whose implements consist of a little fine toothed comb made of the tusk of the wild boar, which is fastened to a small stick in the form of a minute rake The teeth are dipped into the staining material, and with blows of a little stick on the blunt end of the comb they are made to penetrate deep enough to drive the stain into the deeper layers of the skin The operation is attended by great pain and lasts, according to the artistic designs employed, from five hours upward The lines of tattooing are exceedingly fine and the patterns are often quite artistic, as I had an abundance of opportunity to observe There is very little crime among the Samoans For four years there has been only one murder in Tutuila with its 6,000 inhabitants The whites never lock their doors What we look on as petty thefts, such as taking away without permission a loaf of bread, a fish or any kind of fruit, is not regarded in the light of crime by the childlike Samoan The next day the neighbor so treated will even up the account in a similar manner So far as the food supply is concerned, the Samoans constitute one great family, giving and taking as occasion may demand, and the stranger is always welcome to more than his share Family life is ideal The father rules supreme, old age is respected, the ties of relationship and friendship are strong No operation can be performed on a Samoan without a previous family council If the father is the patient the sons decide the matter, if any other member of the family is concerned the father alone has the power to object to or sanction the operation The bedside of the sick is never deserted by the immediate members of the family, and anxious relatives and friends are never far away



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Hiccough

The *Med Times* suggests the following Chloral is perhaps the most generally useful drug in idiopathic hiccough, given to an adult in doses of ten grains (or even twenty grains) every hour until from sixty to eighty grains have been used If after four or five hours the spasms still continue, it will be inadvisable to go on with the chloral Many times a sharp counter irritation on the surface of the epigastrium will stop the attack, used with or without the chloral internally The simple act of sneezing will sometimes promptly check hiccough

Cerebrospinal Meningitis.

Berg, in a recent number of the *Med Record,* discusses the clinical and other features of the recent epidemic of this disease, and gives the following outline of treatment

LUMBAR PUNCTURE

The lumbar puncture is made and repeated only when, after a period of improvement, the temperature again rises, and symptoms of increased intraspinal and intracranial pressure occur, such are total abolition of the patellar reflex, slowing of the pulse, Macewen's symptom, increase in the Kernig phenomenon, increase in the delirium and stupor If the cerebrospinal fluid flows from the canula in a continuous stream under tension the withdrawal of 15 to 30 c c of fluid will do much good. If it escape drop by drop, or if the puncture be a dry tap, there will be no therapeutic result. Sodium iodid is given in from 5 to 10 grain doses every three hours for a child over a year old, and from 15 to 20 grains every three hours for an adult In adults, also mercuric ointment in doses of 15 grains is rubbed into the back of the neck twice daily until the gums are red In older children the amount used is about equal to the size of a bean, and rubbed in several times a day In children with open fontanelles the oleate of mercury in proper doses is rubbed into the anterior fontanelle

FEVER.

When below 102 F no treatment is required, above 103 F use a warm bath at 80 F in which the patient remains five minutes, the temperature of the bath is then raised to 90 F, and the patient is allowed to remain five minutes more. The bath not only reduces the temperature, but induces quiet and rest

GENERAL CARE

1 Large, light, airy room with thorough ventilation

2 Care and cleanliness to avoid the occurrence of bedsores

3 Cleanliness of the nose to prevent deeper infection through the nasal cavities

4 Daily examination of the ears, a timely paracentesis of the drum membrane in suppuration of the middle ear may prevent a subsequent mastoid disease

5 Care of an incipient conjunctivitis to prevent a panophthalmitis, the eyes should be protected from the light by means of a shade and not a darkened room

Pulmonary Tuberculosis.

Pottenger, in a recent number of *Amer Med*, discusses the rôle of the general practitioner in the prevention of this disease There are three factors in the etiology of tuberculosis which must be understood in order to properly and intelligently administer prophylactic treatment

1 Soil —There will be no disease even though the bacilli be present unless the soil is suitable, the body cells must lose their natural resisting power Under normal conditions the cells are very resistant to the growth of the tubercle bacilli This fact is proven by the great prevalence of the tubercle bacilli and the great number of healed foci found in postmortem examinations which were of no clinical significance, in fact were never recognized before death

2 Bacilli —It is an established fact that the tubercle bacillus is the specific cause of tuberculosis, yet it is very questionable if it is capable of producing the disease in a healthy individual, unless it be from a very virulent culture or the inoculation be one of great numbers

3 All influences which lower the normal protective power of the cells must be carefully guarded against (*a*) By living a natural hygienic life Sunshine, fresh air, good food, cleanliness, proper regard for the functions of the various bodily organs, and good habits will do much toward preserving the natural defensive powers of the body cells (*b*) Avoid those things which actually lower vitality, such as overwork, especially under bad hygienic conditions, overcrowding, in rooms badly ventilated and poorly lighted, underfeeding, excesses, especially alcoholic and venereal, disease, mental disturbances, worry over real or imaginary troubles and depression from other causes

The author elaborates further by advocating that a maximum number of hours should be designated as a day's work, varying according to the ages of the workers and the character of work done Workshops, offices and dwellings should have certain requirements as to floor space per occupant The poor should be encouraged by low rents and cheap and rapid transportation to reside in the suburbs Greater care should be taken by the physician in the after care of those diseases which are known to be frequently followed by tuberculosis, e g, la grippe, typhoid fever, and measles

DESTRUCTION OF THE BACILLI

This is largely a matter of education and honor, and its accomplishment depends almost entirely on the medical profession Physicians should have an accurate knowledge of the method of spread of the infection, which should be combated by instruction, by the family physician in the well to do classes, as to the careful disinfection of the sputum and other bacillus bearing discharges *The patient should be told of the* nature of the disease in order to gain his intelligent co operation The great majority of cases are among the poorer classes, and the instruction of them should be placed in the hands of the proper health officers In order for the health officer to obtain results he should assist and be assisted by the family physician

1 Cases should be reported to the health authorities

2 Occasional circulars should be issued by the health department and sent to the physicians

3 Instruction of the poor should be done by the health authorities, in matters of hygiene and disinfection Several assistants should be appointed who, with the help of a corps of trained nurses, should visit the homes of the tubercular poor and make them hygienic This work could be materially aided by the establishment of a free dispensary for tuberculosis Such a dispensary to provide sputum cups and disinfectants and it would be an act of mercy if such foods as milk and eggs could be given to those who were in need of them

EARLY DIAGNOSIS

Of the great advantage of early diagnosis the author says "It is conservative to say that if the disease were diagnosed, as it can be, in its very incipiency, at least 75 per cent could be restored to health by intelligent treatment" Therefore, examine all suspicious cases

Medicolegal.

Crying as Evidence of Injury—The Supreme Court of Alabama says, in Montgomery Street Railway Company vs Shanks, a personal injury case brought by the latter party, that crying is often symptomatic of pain, and, in connection with the other evidence of actual hurts received by the plaintiff, the fact that she cried all the afternoon of the accident was admissible in evidence as of the essential circumstances of the injury, as was also the fact that she complained of pain the next morning

Entitled to Compensation for Pain from Operation—The Supreme Court of Michigan says that, in the personal injury case of Beattie vs City of Detroit, testimony was allowed to be given as to the cost of an operation The jury were also instructed that the plaintiff was entitled to compensation "for the pain she may suffer from an operation, if an operation is deemed necessary" The court holds that there was no error in this, it being the opinion of the physicians who testified in the case that the injury would not yield to medical treatment, but could be cured by surgical operation

Drinking of Liquor Before Commission of Crime—The Supreme Court of Iowa says, in the homicide case of State vs Busse, that the crime charged involved the condition of the defendant's mind at the time of the killing and evidence of intoxication could be considered by the jury in determining his mental condition But the court goes on to say that it knows of no authority holding that the mere fact that an offender drank liquor shortly before committing the crime will constitute such evidence of intoxication as to require the question of its effect on his mental condition to be submitted to the jury It is the mental confusion produced by liquor which is receivable on the question of intent of premeditation and not the fact of liquor having been taken, for it is a matter of common observation that one man may drink a considerable quantity of liquor without being affected thereby mentally or physically while another may be seriously affected by a small drink

Expert Evidence and Privilege—The Supreme Court of Missouri Division No 2, says, in the personal injury case of Holloway vs Kansas City that it was insisted that there was error in admitting in evidence the expert opinion of the plaintiff's physicians as to the cause of her physical condition based on the previous history of her case as they learned it from her, that the correct method is to prove cause by hypothetical question based on facts in evidence That the opinion of an expert witness is permissible when based on his personal knowledge of the matter under investigation or on competent evidence in the case, or on both, the court says is well settled but the question here was whether a physician who testifies as an expert should be allowed to express his expert opinion based on the previous history of the patient as he learned it from her personally in consultation with her in respect to her ailments The conclusion is that it was error to allow an expert witness to give his opinion based on the history of the plaintiff as he learned it from her in diagnosing her case or while treating her The court says that the statements of the plaintiff with respect to her past physical condition were mere hearsay, and should not have been considered by the expert in expressing his opinion as a witness as to her physical condition at the time of the trial The decided weight of authority and the better reason support this contention But a conversation between a patient and physician in regard to the former's doctor bill or in regard to a contemplated lawsuit, the court holds is not privileged, it not being "information necessary for the physician to enable him to prescribe for such patient as a physician or do any act for him as a surgeon" within the purview of the statute That the plaintiff could not sever her privilege and waive it in part and retain it in part the court also thinks clear And, if she waived it at all then it ceased to exist That she did so waive it when she testified that a physician examined her though not very thoroughly, and asked her about it, and she told him, and he examined her womb and back is deemed too plain for discussion However, such waiver should be restricted to such information as the physician acquired from her while attending her in a professional character and which information was necessary to enable him to prescribe for her as a physician or to do some act for her as a surgeon and it is manifest that a conversation in regard to a contemplated lawsuit, or the plaintiff's doctor bill, did not come within the provision of the statute But the court is not to be understood by these observations as meaning or intimating that the physician was not competent to testify as a witness to what the plaintiff said to him, if anything in regard to bringing suit against the city for damages, and that if she would go into it they would be able to fix up his bill against her Such statements were not within the meaning of the tute under consideration On the other hand, the court does not agree with the contention that because the plaintiff, after testifying that her health was good, had answered, on cross examination, that a physician had treated her for headaches, that she waived protection of the statute, and that the defendant had the right to the evidence of the physician for the purpose of contradicting her

Vested Right of Physician to Payment as Per Contract—The Supreme Court of Michigan says that, in the case of Kapp vs Board of Auditors of Washtenaw County, the board of health of Freedom township, in said county, made a written contract to pay for the care of indigent persons affected by contagious diseases $10 per visit and 25 cents per mile going After the services in question were rendered, but before the bill therefor was allowed, the legislature passed an act, giving it effect March 13, 1903, which provided for a change in the law giving the boards of supervisors authority to pass on the reasonableness of claims for services in caring for indigent persons, by direction of the board of health, whereas, before the allowance by the local board was usually final and conclusive on the board of supervisors By reason of this the board of auditors refused to allow and pay the bill contracted in this case as above The Supreme Court says that it was unimportant whether the township board of health might properly agree in advance on the price to be paid for such services or not, for the service was rendered at the request of that board, and the bill was audited and allowed by it Had this allowance been made before the act took effect, it is clear that the board of auditors must have paid the bill, and that the physician's right could not, in such case, have been affected by the legislature Did the fact that the allowance was deferred until after such act took effect justify the board of auditors in its action? The court's answer is that the physician rendered services under a law which made the county liable to pay for them on allowance by the local board The amount was agreed on in advance He had a vested right to such payment when lawfully allowed by the local board and it could not be taken away or impaired by legislation, as it would be if the supervisors were authorized to question its reasonableness To much the same effect is the second decision of the Supreme Court of Minnesota in the case of Comstock vs Board of Commissioners of Lesueur County, where it overrules the decision reported on page 1590 of THE JOURNAL of June 11, 1904 In this second decision it holds that chapter 238, page 378, Laws of Minnesota of 1901, changing the liability for expenses incurred in preventing the spread of contagious diseases from towns and villages to counties, did not change or abrogate contract relations then existing between individuals and such towns or villages A contract existing at the time of the passage of that act, and under which an indebtedness against a village arose may be enforced against it Again, it says that at the time the contract here involved was entered into and the indebtedness incurred—at least the greater part of it—towns and villages are solely liable for all expenses of this kind The rights of the parties became vested and fixed at the time the contract was entered into, and it was beyond the power of the legislature to impair its obligation, as between individual creditor and the town or village, by shifting the liability from the town or village to the county The plaintiff in this action had the right to rely on and seek relief in accordance with the contract between himself and the village

Current Medical Literature.

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia

September 17

1 *Intermittent Lameness and Other Nervous Symptoms of Peripheral Arterial Disease Charles W Burr
2 The Roentgen Rays in Injuries Near the Wrist M I Wilbert
3 Eyestrain as a Causative Factor in Sinusitis Wm L. Phillips
4 Administration of Chloroform and Ether, Comparative Notes of the Two Drugs Thomas J Strong
5 Traumatic Emphysema of the Orbit and Lids H F Hansell

6 Contracture of the Neck of the Bladder Thomas G Youmans.

1 **The Nervous Symptoms of Peripheral Arterial Disease**—These symptoms may be either paroxysmal or permanent, either motor or sensory The one constant lesion in intermittent lameness is chronic arteritis Aneurism, especially of the iliac artery, is not very infrequent Intermittent lameness bears some resemblance to angina pectoris Its rarity is apparent rather than real and due to its not being looked for or thought of Patients do not always present a typical clinical picture The most striking thing is the absence of the pulse in the member or members affected Many cases are thought to be rheumatic or neuritic or even neurasthenic Glycosuria is a frequent complication in both slight and severe cases Often the disease resembles paralysis agitans without tremor, without festination and without speech defect but with the wooden face and the waxy rigidity of movement The morbid anatomy of the disease is much disputed Some of these cases are spinal in origin and there is found an overgrowth of the neuroglia and minute areas of softening due to disease of the blood vessels in the spinal cord, but at other times there is only sclerosis of the peripheral arteries with little or no spinal disease

Boston Medical and Surgical Journal

September 15

7 *Obstructive Renal Retention with Anuria and Its Treatment Francis S Watson
8 Remarks on the General Principles of Management of Pulmonary Tuberculosis S G Bonney
9 The Gynecological Aspect of Mental Overstrain at Puberty and Its Influence on Development Wm Edgar Darnall

7 **Renal Retention with Anuria**—Watson's paper deals with those forms of renal retention only with which anuria is associated, and which originate in complete closure of the ureter or of the outlet of the renal pelvis He presents an analysis of 200 cases published by different writers Cases in which the diagnosis is reasonably assured, apart from the surgical treatment, subcutaneous injections of saline solution are useful with a view to delaying or mitigating uremic symptoms In cases of calculus obstruction, hot hip baths and manipulation aid the passage of the stone When the obstruction is due to a kink of the ureter produced by movable kidney, the patient's hips should be raised the abdomen relaxed and an effort made to replace the organ in its normal position As to operative treatment, a quickly performed lumbar nephrotomy is the operation which will best fulfill all the requirements Speed in the performance of the operation is of the highest importance

Medical Record, New York.

September 17

10 *Malignant Disease of the Larynx D B Delavan
11 *Post typhoid Perichondritis of the Larynx L Mayer
12 *The Treatment of Pulmonary Hemorrhage W B McLaughlin
13 *Non operative Treatment of Trachoma Frank J Parker
14 *Malaria. R Cadwallader
15 Practical Hygiene in the Public Schools R S Wilcox

10 **Malignant Disease of the Larynx.**—Delavan's paper indicates the progress recently made in the study and care of malignant disease of the larynx and calls attention to certain special points of treatment which seem of sufficient value to demand investigation and discussion, such as the use of the x ray and other means of producing radiant energy Laryngectomy and tracheotomy are discussed in all their phases, and the author concludes that in properly selected cases early preliminary tracheotomy is without doubt a valuable measure Improved technic special skill and early recognition of the disease will continue to improve the results obtained from this operation

11 **Post Typhoid Laryngeal Perichondritis**—Mayer refers to a case of this kind which was published, in part, last year in which a complete cure was effected by means of intubation The special points of interest in the case are 1 The unusual nature of its origin, a gradually increasing dyspnea requiring a tracheotomy one month after the patient was discharged as cured of the typhoid fever Three months later an O'Dwyer tube was introduced which was worn for six weeks 2 The length of time the tube was worn—for three months continuously 3 The ease of deglutition after an intubation 4 The use of the child's size O'Dwyer tube for a short time toward the last 5 The cure by intubation Nine months after the last extubation the patient's general condition is good, she has increased in weight and attends to her usual duties

12 **Pulmonary Hemorrhage**—McLaughlin's treatment of pulmonary hemorrhage is as follows Immediately on the occurrence of the hemorrhage the patient is given a hypodermic injection of 1/100 grain nitroglycerin and 1/4 grain morphin Adhesive straps are applied to the side of the chest from which the hemorrhage is coming and the patient is instructed to lie on that side Six hours after, if the hemorrhage has ceased, the patient is moved to a summer house which has no sides and is practically out of doors At the end of four days the straps are removed and the patient is given a week of rest cure in the open Seven cases have been treated in this manner, four were of moderate severity and two very severe, one was not severe as to the amount of blood lost in a given time, but the bleeding extended constantly over a period of more than seven weeks, during which time all the coughed up matter was stained with blood In all cases the hemorrhage was promptly and permanently controlled, and in none of these was there any secondary rise of temperature

13 **Trachoma**—Parker says that the cases for operation should be selected carefully, inasmuch as much harm may be done by indiscriminate operation Operation is not a radical cure, but merely a means to a cure and a shortening of the time of treatment Post operative treatment is of the greatest importance, without it there may occur relapses which are as bad or worse than the first attack The general condition of the patient is of importance Proper feeding and out of door life should be urged Adenoids and other hindrances to development should be removed The treatment should be continued until the patient is cured An effort should be made to prevent the spread of the infection and to arouse the patient's interest in doing so For this purpose Parker gives the following printed instructions to his trachoma patients Trachoma is a contagious disease of the eyelids, which if neglected will cause suffering and injury to the sight. To avoid infecting others, those having the disease should observe the following instructions 1 They should have their own towels, handkerchiefs, washcloths and toilet articles, and under no circumstances should they be used by others. 2 They should sleep alone 3 Avoid rubbing or touching the eyes, as the contagion may be carried on the fingers and infect others through articles handled 4 The hands should be cleaned often with soap and water 5 Treatment should be attended to regularly and continued until pronounced cured by the physician Parker's non operative treatment consists of bichlorid rubbing, with the use of one of the organic silver solutions, night and morning in the hard variety, he uses copper sulphate in place of the bichlorid

14 **Malaria.**—Cadwallader gives a summary of our present knowledge of the etiology of malaria, and reports several cases, calling attention to a number of interesting clinical features He believes that a pre requisite to infection, or at least to symptoms, is a watery condition of the blood, and just in proportion to the total fluid in the body will be the severity of the disease

New York Medical Journal

September 17

16 Suggestions on the Medical College Library Eugene F Cordell
17 *Postmortem Examinations for Medicolegal Purposes I L Polozker
18 The Present Condition of Tenontoplasty (Continued) Professor Vulpius
19 *Trachoma and Some Diseases Resembling It James A Nydegger
20 Notes on Uremia Urea and the Urea Tests F L Wachenheim
21 *The Non susceptibility of the Newborn to Measles Edwin F Graham
22 *Insufficient Motility of the Stomach and Its Treatment. Dudley Fulton
23 *Gonorrhea (?) in the Male John Flanagan
24 *Elevation of the Hips in the Treatment of Placenta Previa Alfred King
25 Our Relation to One Another, John M Kennedy

17 **Medicolegal Postmortems**—Polozker believes that it is absolutely necessary that this subject should be taught in medical colleges, and from the practical standpoint only The difference between the medicolegal postmortem and the pathologic postmortem should be emphasized The modern methods of the coroner and the police department in the conduction of a murder case are deprecated, and a remedy for the evil is pointed out

19 **Trachoma**—Nydegger refers to the confusion in diagnosing between trachoma and other diseases of the conjunctiva, such as papillary conjunctivitis and follicular conjunctivitis The subject of trachoma is reviewed in full

21 **Non-Susceptibility of New-born to Measles**—Graham reports a case which he believes shows the non susceptibility of the infant at full term to measles A woman, ill with a well developed case of measles, gave birth to a healthy child presenting no abnormal conditions or symptoms At no time was the child isolated from its mother, it was kept in the same bed, nursed at intervals of two hours, and treated exactly the same as if it were not exposed to the contagion of the measles Although an older child developed a typical case of measles, the infant, six weeks after birth, presented no evidences of having contracted the disease

22 **Insufficient Motility of the Stomach**—*Fulton's* treatment of this condition is hygienic, medicinal and mechanical The diet should be one that spares the motor powers of the stomach, and, therefore, the more feeble the motility the more liquid the diet, especially when there is obstruction of the pylorus The feedings should be small and frequent, although each case is a guide as to the number of feedings per day that should be given The medicinal treatment comprises the administration of 1/24 grain of strychnin, three times a day, dilute *hydrochloric acid, freely diluted*, in 20 or 30 drop doses after meals, teaspoonful doses of burned magnesia and sodium bicarbonate one or two hours after eating when excessive acidity exists Fulton has obtained good results in these cases by giving a pill containing from ½ to 1 grain of creosote, with 1 grain each of pulverized rhubarb and soap Of the mechanical measures, he uses abdominal bandages, lavage and internal faradaization of the stomach Cases which do not improve under this treatment should be relieved by operative procedure before the strength of the patient is entirely spent

23 **Gonorrhea**—Flanagan emphasizes the fact that many cases of suppurative urethritis are diagnosed as specific and subjected to treatment which may prove harmful rather than otherwise Treating a case of *urethral inflammation*, the physician should know exactly the nature of the trouble and use such treatment as the exigencies of the case demand

24 **Placenta Previa.**—King briefly discusses the value of elevation *of the hips in the treatment of placenta previa* The method is also applicable in excision of the rectum and abdominal hysterectomy, gravity operating in these cases as a great blood saver The method is not described in text books It consists in inclining the patient's body to an angle of 45 degrees This is really the Trendelenburg position, with the legs of the patient in the same plane as the body

Medical News, New York

September 17

26 *Polyuria in Typhoid Fever M H Fussell, H S Carmany and H Hudson
27 *Treatment of Acute Middle ear Disease John A Donovan
28 *Value of Early Incision of the Membrana Tympani in the Treatment of Acute Suppuration of the Middle Ear Francis R Packard
29 *Contributions to the Pathology and *Treatment of Acute Gonorrhea* Ludwig Weiss
30 *The Diagnosis of Incipient Pulmonary Tuberculosis G W Norris
31 *Diagnosis of Advanced Tuberculosis Frank A Craig
32 *Differential Diagnosis Between Pulmonary Tuberculosis and Conditions Resembling It H R M Landis
33 *History Taking in Cases of Pulmonary Tuberculosis Charles J Hatfield

26—See abstract in THE JOURNAL, xlii, p 1376

27 **Acute Middle-Ear Disease**—For the treatment of this condition Donovan prefers the curette, finger nail or nail curette He considers ether and nitrous oxid far superior to chloroform for anesthetizing infants and young children In older children and adults he uses *cocain*, in *fact*, a single application of 5 per cent may be used safely even in young children To affect a thorough cure, it is necessary to remove all hypertrophied lymph tissues, such as adenoids and enlarged lingual tonsils The prophylactic treatment is all important and should not be overlooked In all *diseases affecting* the nasal pharynx reasonable precautions should be used to avoid tubal infection With the first symptoms of earache he advises the use of heat and dehydrating remedies If these do not produce beneficial results in a few hours, treat surgically When possible with a catheter use a mild continuous stream of hot air early and repeat in eight or ten hours If these measures fail to relieve the symptoms within ten to twenty four hours, make a free incision through the entire drum or extend into upper canal wall, if necessary Use aseptic gauze drainage and outside pad for absorption Patients should never be allowed to suffer for more than forty eight hours and remain exposed to the risks of complication

28 **Incision of the Membrani Tympani**—Packard emphasizes the great value of early incision of the membrana tympani in the treatment of acute suppurative otitis media, and the many advantages possessed by the so-called dry treatment, and by practicing efficient gauze drainage Douching out the ear is distinctly contraindicated, except when it is done by a skilled aurist, who can properly dry the ear after such procedures

29 **Acute Gonorrhea**—Weiss continues his discussion of this subject, the various silver compounds, their advantages and disadvantages, are considered at length The treatment of the mucosa should at all times conform to the microscopic findings

30 33 **Tuberculosis**—These four articles are an epitome of what is known of the questions dealt with in the papers, and serve to emphasize the importance of an early diagnosis, the necessity of careful differentiation between pulmonary tuberculosis and conditions resembling it, and the value of taking complete histories of each case

Cincinnati Lancet-Clinic

September 17

34 Physiologic Therapeutics vs. Drugs in the Treatment of Diseases of Infancy and Childhood J Morton Howell
35 Hypodermoclysis Charles T Souther
36 Paraffin Injections for Overcoming Wrinkles and Minor Facial Imperfections. Charles C Miller

Annals of Surgery, Philadelphia

September

37 *Contribution *to* the Surgery of Neurofibroma of the Acoustic Nerve Joseph Fraenkel J Ramsay Hunt, George Woolsey and Charles A Elsberg
38 *Adenoma of the Mucous Glands of the Lips as a Cause of Macrocheilia D N Eisendrath
39 *Lingual Goiter Henry R Storrs
40 *Purulent* Mastoiditis J A C Macewen.
41 Removal of a *Foreign* Body from the Bronchus with the Electromagnet A J Hosmer
42 Removal by Gastrotomy of a Hatpin Swallowed by a Twenty months-old Child A F Holden
43 Details of the Technic of a Posterior Gastro-enterostomy Charles L Scudder
44 Gangrene of *the Hollow* Viscera V Kenerson
45 Results in Abdominal wall Suture Charles Davison.
46 *A Posterior Excision in Certain Appendicitis, Operations John G Sheldon
47 Inflamed Appendix in the Sac of the Femoral Hernia. A R Shands
48 Radical Operation for Malignant Neoplasm of the Urinary Bladder A A Berg
49 *Repair of the Urethra by Transplantation of the Urethra of Animals J H Pringle
50 The Formation of an Artificial Vagina by Intestinal Transplantation J F Baldwin
51 The Use of Electricity in Skin Grafting J D Rushmore.

37 **Neurofibroma of the Acoustic Nerve**—*Fraenkel* and Hunt are of the opinion that the symptoms of *tumor of* the acoustic nerve are so well defined that a diagnosis can be made with practical *certainty* in every case, not only with reference to *its location, but also its nature and comparative size* However, other slowly growing pathologic conditions in the posterior fossa might closely simulate this condition The slow and essentially benign nature of the growth, its non infiltrating character and enucleability all favor surgical interference

But its deep situation at the base of the brain, in immediate proximity to vital centers offers very serious obstacles From personal observation the authors conclude that the surgical technic should be perfected along the following lines 1 The avoidance of undue concussion in the removal of the bone and the enlargement of the trephine opening 2 A method of extirpation by which the tumor could be extirpated without undue manipulation of the surrounding parts 3 The division of the operation into stages, as recommended by Horsley, and celerity of execution

38 **Macrocheilia.**—Eisendrath adds a second case to the literature of macrocheilia due to adenoma of the mucous glands of the lid, the diagnosis having been confirmed by a microscopic examination The case improved remarkably *after operation*, and there has been no recurrence in a year

39 **Lingual Goiter**—Storrs reports a case of lingual goiter, the tissue involved being accessory thyroids at the base of the tongue which are embryonic remnants of the atrophied thyroglossal duct. Only 32 cases of this kind are recorded in the literature, 29 in women and 3 in men These lingual tumors usually are situated on the dorsum of the tongue, generally just behind and below the foramen cecum, but sometimes enclosing it in their growth on the median line, as a rule, but perhaps a little to the right or left In shape they are round or ovoid, their size ranging from that of a cherry to that of a man's fist The tumor is encapsulated and may project about the surface of the tongue or be almost buried in the muscles of this organ There is no inflammation or infiltration of the surrounding tissues, and at operation the tumor is enucleated easily Its surface is covered with the mucous membrane of the tongue, it is smooth and shiny, and in color is darker than that of the surrounding mucous membrane, due to the great infiltration of blood vessels These vessels cover the surface of the goiter and penetrate deeply into its tissue, and cause the profuse hemorrhages which occur at operation. This rich vascularization is of great value in differential diagnosis The tumor may or may not be movable, its consistency is variable The troubles caused by it are purely functional, and these vary with the size of the tumor With one exception, the patients were in the best of health. It has all the characteristics of a benign tumor The prognosis is favorable. The only rational method of treatment is removal, either by the use of the galvano cautery loop or by incision with enucleation The latter operation is preferable and is performed easily The tumor may be reached either through the buccal cavity or through an incision in the suprahyoid region, which may be simple or include the hyoid bone or inferior maxilla

40 **Posterior Incision for Appendicitis.**—Sheldon describes a method by which the appendix is reached through Petit's triangle The patient is placed on the left side and a *large support put under the left loin thus bringing the appendix* nearer the incision by depressing the right side of the pelvis An incision is made from a point one half an inch behind the highest point of the crest of the ileum toward the tip of the twelfth rib The length of the incision depends on the obesity and the body form of the patient The anterior border of the latissimus dorsi muscle is located, freed by blunt dissecting and retracted posteriorly This exposes the outer border of the quadratus lumborum muscle, the lumbar fascia, and the aponeurosis of the transversalis A transverse incision, one half to one inch above the crest of the ileum, is made, beginning at the outer border of the quadratus lumborum and extending forward parallel to the fibers of the transversalis, as far as is necessary to secure sufficient room to operate quickly The subperitoneal fat is pushed aside with the finger, covered with a piece of gauze The peritoneum is opened near the forward part of the incision and the peritoneal incision enlarged in a posterior direction On opening the peritoneum the cecum presents itself in the wound The appendix is amputated in the usual manner and when drainage is not necessary the wound is sutured in layers, *with catgut* and silkworm gut Sheldon has never found it necessary to ligate a vessel during the operation, and seldom has it been necessary to check temporary bleeding with hemostats In clean cases the operation has no advantages over the method ordinarily *employed*, except that it is followed by less shock and abdominal distress than is a laparotomy through an anterior incision In obese cases the operation is more *rapid* and is less likely to be followed by hernia In all cases requiring drainage the operation is preferable to the old method The abscess is *opened* in the most dependent part *and the infected* area can be treated without coming in contact with the omentum or small intestines Retroperitoneal infection is drained much more efficiently than is possible through an anterior incision Sheldon has operated on 58 cases by this method and has found no disadvantages

49 **Urethral Transplantation**—Pringle describes three cases in which defects of the urethra have been treated by grafting portions of the urethra of an ox Two of the patients so treated had sustained a complete and extensive rupture of the urethra in the perineum, the third patient had a hypospadias, *there being* a deficiency of the floor of the urethra for the whole of the penile portion of the channel The operation in each case was a success, the grafted tissue remaining alive and furnishing a patent channel In two of the patients the procedure had to be repeated, but in each *of them, at the time* of the second operation, the tissue which had been grafted on the former occasion was found to be present.

Post Graduate, New York

September

52 Primipara in Obstetric Practice I A Dorman
53 Recent Advances in Genito-urinary Surgery James Pedersen
54 *Acute Rheumatism in Children H B Sheffield
55 *Tumors P Langerhans
56 Communicability of Pneumonia by Contact I Weber

54 **Acute Rheumatism in Children**—Sheffield considers rheumatism in children a grave infection, one that requires active treatment particularly, *in order* to prevent serious complications Rest in bed is the most important therapeutic measure in this direction, and should be enjoined during the entire course of the disease. Dieting he considers to be nothing but a myth During the febrile stage the diet should, of course, be limited to the ordinary "fever diet" In older children he uses the salicylates combined with small doses of pepsin or ingluvin For younger children he prefers aspirin or the salicylates obtained from the wintergreen plant, in doses of 5 grains, to be repeated every two hours the first day and every four hours the following days For the relief of articular pain and swelling the joint should be wrapped in absorbent cotton wrung out of a warm saturated solution of bicarbonate of soda The compress should be covered with oiled silk and a flannel bandage and changed as soon as it becomes dry After disappearance of the acute symptoms the stiffness and lameness generally yield to gentle massage with an ointment containing 1 dram each of oil of gaultheria and ichthyol in 1 ounce of lanolin Later on it is advantageous to supplement the local treatment by gentle general massage The iodids should not be lost sight of in protracted cases

55 **Tumors**—This is a translation of that portion of Langerhans' work on pathologic *anatomy* which describes lipoma, myxoma chondroma, osteoma psammoma, melanoma and glioma

St Louis Courier of Medicine

September

57 Some Useful Anatomical Landmarks as a Guide to the Operation for Opening the Mastoid Antrum. Selden Spencer
58 *Infection—An Overlooked Disseminator E A Babler
59 *Scarlet Fever Treated with Antistreptococcic Serum H N Chapman
60 Two Unusual Ovarian Cysts A H Meisenbach

58 **Infection**—Babler refers to an overlooked disseminator of infection—*the garment that* drags on the floor of the home, that collects the filth and disease of the pavement, the steps, the darkened passageway, the street, the alley, or wherever its wearer may chance to go—and asks that every practitioner consider this matter *carefully and* do what he can to remedy this evil

59 **Antistreptococcic Serum in Scarlet Fever**—Chapman reports a case of scarlet fever which yielded promptly to anti

105 Operative Fistulæ of the Male Urethra R L Rigdon
106 The Symptoms of Glaucoma Albert B McKee

Pennsylvania Medical Journal, Pittsburg

August

107 *One Year's Work in Appendicitis John B Deaver
108 Differences in the Management of Appendicitis and Salpingitis George D Shoemaker
109 The Management of the Pus Appendix George W Guthrie
110 Value of Differential and Absolute Leucocyte Count in Cases Simulating Appendicitis A Blair Snively
111 Left sided Appendicitis Edmund W Holmes
112 Treatment of Suppurative Appendicitis Ernest Laplace
113 Clinical Course and Diagnosis of Arteriosclerosis Alfred Stengel
114 Laryngeal Tuberculosis Ross H Skillern
115 Diphtheria Antitoxin Employed in the Treatment of Scarlet Fever C D Miller
116 Simultaneous Subcoracoid Dislocation of Both Shoulders A Stewart

107 —See abstract in THE JOURNAL, xli, p 1105

Toledo Medical and Surgical Reporter

September

117 Early Diagnosis and Treatment of Diphtheria W D Stewart
118 Intestinal Parasites in Children C I Monroe
119 What Should the General Practitioner Know About the Ear? W H Snyder
120 Croup William F Waugh

International Journal of Surgery, New York

September

121 Suprapubic Enucleation of the Prostate H O Walker
122 The Treatment of Puerperal Infection I T Altman
123 Sepsis Its Clinical Aspect and Treatment (Continued) J Bennett Morrison

Maryland Medical Journal, Baltimore

September

124 Remarks on the Etiology and Treatment of Diabetes Mellitus (To be continued) Thomas B Futcher
125 Antitoxin for Hay Fever and Rose Cold Leonard K Hirshberg

Albany Medical Annals

September

126 Is Nursing a Profession Henry M Hurd
127 Acute Purulent Otitis Media Some Suggestions as to Its Therapeutic Management and the Prevention of Its Complications Frederick T Clark
128 Associated Cases of Staphylococcus Pyogenes Aureus Infection George E Beilby

Brooklyn Medical Journal

September

129 Factors in the Destruction of Primitive Man Frederick A Cook
130 Historical Résumé of Clinical Teaching William Schroeder
131 Benzoyl acetyl peroxid in the Treatment of Typhoid Fever W W Ross

Medical Review of Reviews, New York

August 25

132 Aphasia and Agraphia Edward D Fisher

Illinois Medical Journal, Springfield

September

133 The Diagnosis of Pulmonary Tuberculosis Frank Billings
134 The Duty of the State in Restricting Tuberculosis Harold N Moyer
135 The Treatment of Pulmonary Tuberculosis Robert B Preble
136 The Annual Economic Loss to Illinois from Tuberculosis Homer M. Thomas
137 Mortality from Tuberculosis in Illinois for the Years 1902 and 1903 George W Webster
138 Factors Causing Consumption and Furthering Its Spread—Suggestions for Its Prevention Charles L Mix
139 *Leukemia with the Consideration of Its Treatment by the Roentgen Ray Everett J Brown
140 The Subcutaneous Injection of Paraffin More Particularly for the Correction of Nasal Deformities James T Campbell
141 *Symphysiotomy in Persistent Mento-posterior Face Presentations with Report of a Case E B Montgomery
142 Report of Three Cases of Penetrating Wounds of the Chest Involving the Diaphragm and Abdominal Viscera Daniel H Williams
143 *The Pneumonia Problem Arnold C Klebs

139 —This article has appeared elsewhere See THE JOURNAL of July 23, ¶60, p 284

141 —See abstract in THE JOURNAL, xlii, p 1511

143 —Ibid , p 1441

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

The Lancet, London.

September 10

1 Address on the Anatomy of Study Alexander MacPhail
2 *Human Piroplasmosis C Donovan
3 *Epibulbar Melanotic Sarcoma J Gray Clegg and I Walker Hall
4 Treatment of Ruptured Urethra by Combined Drainage (Suprapubic and per Urethram) Henry Rutherfurd.
5 *Case of Pseudo leukemia (Lymphosarcoma) in a Young Child John J Redfern and Wm Hunter
6 Tender Spots on the Spine in Relation to Pain in Various Parts of the Body St Clair B Shadwell
7 Rupture of the Uterus During Labor, Laparotomy, Recovery of Mother and Child Edgar Down
8 Case of Tumor of the Centrum Ovale with Cerebellar Symptoms Difficulties of Diagnosis W L Ascherson.
9 *Treatment of Rectal Prolapse by the Submucous Injection of Paraffin Arthur H Burgess
10 Cases of Appendicitis with Perforating Duodenal and Gastric Ulcer H A Ledlard
11 The Evolution of Man's Diet. Harry Campbell

2 **Human Piroplasmosis**—Donovan gives a full description of the maladies as observed by him, the causative animal parasite and the postmortem findings He is convinced of the identity of this disease and kala azar, the exciting cause in both being the same

3 **Epibulbar Melanotic Sarcoma**—Clegg and Hall add two cases of pigmented epibulbar tumors situated at the limbus to the literature on this subject Of 520,523 out patients who have attended at the Manchester Royal Eye Hospital during the last thirty three years, only 3 were cases of pure melanotic sarcoma of the limbus although general 'orbital melanosis" has been noted more frequently One case disappeared after operation, the other 2 recovered completely In 1 case the eye was removed, in the other 2 the tumor was excised Of the latter the one patient remaining under observation regained perfect vision, and is in robust health

5 **Pseudoleukemia in a Child**—Redfern reports a case of pseudoleukemia occurring in a child two years and nine months old, with no history of previous illness The case terminated fatally by syncope after about eight weeks' illness Only the cervical glands were enlarged, but they were not painful or tender on pressure The axillary and anterior mediastinal glands became enlarged later Dyspnea was marked There was unilateral perspiration on the left side of the body, face and limbs The left pupil was more dilated than the right The general nutrition was maintained until death There was no family history of syphilis or tuberculosis The blood condition was as follows Red corpuscles, 4,080,000, leucocytes, 8,000, lymphocytes, 30 per cent , hyalin leucocytes, 10 per cent , polymorphonuclear cells, 68 per cent , eosinophile cells, 2 per cent

9 **Injection of Paraffin in Rectal Prolapse**—Burgess has treated 18 cases of rectal prolapse by the submucous injection of paraffin having a melting point of 111 Of the 18 cases the ages ranged from 3 to 48 years and the size of the prolapse from 1½ to 5 inches in length In all of them the prolapse descended with almost every bowel movement and remained down until replaced Two were associated with excoriation and ulceration of the mucous membrane, 2 had been previously treated by linear cauterization without success, and 2 had recurred after the excision of the lower part of the rectum The injection treatment has been extremely satisfactory in all the cases, not a single instance of recurrence having occurred. Paraffin masses can readily be distinguished after two months, feeling like nodules of cartilage The technic of the operation is as follows The paraffin is kept melted by placing the container in water at a temperature of about 120 The syringe has its barrel covered with rubber to retain the heat longer The instrument is placed in the hot water bath for a few minutes, is then filled with melted paraffin, and replaced in the bath until the moment it is required to be used. The patient is anesthetized and placed in a lithotomy position, the prolapse is drawn out to the fullest possible extent The apex of the prolapse is seized with artery forceps, at three points equi distant along its circumference, so selected that two forceps will be placed anteriorly and the third in the posterior median line By gentle traction the mucous membrane is raised into three ridges forming an equilateral triangle The needle of the syringe is inserted in turn into the middle of each side of this triangle, from 2 to 3 c c. of paraffin being introduced on each occasion As this solidifies the mucous membrane bulges inward, converting the lumen of the

bowel into a more or less tri radiate slit The forceps are removed, the apex of the prolapse is reduced, and the mucous membrane is again seized with forceps about 1½ in from the original apex, as before, except that at this time, two are placed posteriorly, and one anteriorly The paraffin is injected as before, with the result that the lumen of the bowel is again converted into a tri radiate slit, the radii, however, corresponding to the intervals between the radii of the tier above This portion of the prolapse is now reduced and the forceps re applied, as at the first time, and the process is repeated until the anus is reached As a rule, three tiers are sufficient, but in a very long prolapse four may be introduced safely In order that straining may not cause the prolapse to re-descend before the paraffin has firmly set, Burgess inserts a stout silkworm gut suture through the buttocks on either side, tying it firmly over a pad of gauze placed over the anal orifice This suture is removed at the end of twenty four hours No special after treatment is required The patient is kept in bed for four or five days The bowels have usually been allowed to act spontaneously Autopsy shows that the paraffin remains strictly localized to the area of its introduction and undergoes no change However, the masses become encapsulated by fibrous tissue The rectum is fixed firmly in its normal situation, and can not be drawn down to constitute a prolapse even after considerable pressure

British Medical Journal, London

September 10

12 Discussion on Immunity J Ritchie K Muir H Noguchi A Ruffer A E Wright and others.
13 Discussion on the Rôle of the Lymphocyte G L Gulland J M Beattie W G MacCallum T Houston and others

Journal of Tropical Medicine, London.

September 1

14 *Onyalai a Disease of Central Africa A Yale Massey
15 *Antityphoid or Anti enteric Inoculation F Smith

14 **Onyalia**—Under this name Massey describes a disease found among the blacks of Portuguese West Africa It is rarely ever fatal The only clinical evidence is the appearance on the hard palate and buccal mucous membranes of vesicles distended with blood, ranging from one quarter to half an inch in diameter Sometimes these vessels are umbilicated, they can not be emptied easily, they have a tendency to appear in clots There is no fever, the patient complaining only of discomfort in the mouth and a general feeling of lassitude The duration of the disease is about ten days Treatment consisted of the administration of 60 grains of bicarbonate of soda and half an ounce of unpurified codliver oil internally each day Calcium chlorid was not given a trial

15 **Antityphoid Inoculation**—Smith has made a careful study of this question and summarizes his paper as follows

1 Antityphoid inoculation has a distinct value in protecting the human organism from attacks of typhoid fever
2 To obtain the fullest measure of protection the operation should be done say two months before exposure to infection
3 Even when inoculation is performed shortly before exposure to infection it is a beneficial procedure on the whole
4 The protective influence is exerted for some years long enough probably to tide over the most vulnerable age of youth and earlier manhood
5 The protection afforded is in the proportion of 3 to 1
6 The proportion of protection is much less than that of efficient vaccination for smallpox
7 Vaccination against smallpox is about ten times as effective as antityphoid inoculation
8 Typhoid under normal conditions at home and in some foreign stations is not a very common disease such as smallpox used to be
9 Typhoid among soldiers—on active service in most places and when on peace service abroad especially in India, South Africa Egypt, Bermuda Mauritius and Malta—is a very common and fatal disorder
10 Typhoid is a danger to which nurses and hospital subordinates generally are specially exposed.

The final conclusions reached as regards the practical value of antityphoid inoculation are

1 It is not at present of sufficient practical value to warrant its general adoption by the nation at large
2 It is of distinct practical value to any community in which typhoid breaks out in an epidemic form
3 It is of practical value to those who have much to do with typhoid patients
4 It is of utility for general adoption among newcomers in certain special endemic areas abroad, such as some Indian stations and Malta
5 It is of great practical value at all times to soldiers serving in India, South Africa and Malta also but in a less marked degree, in Gibraltar and other places
6 It is certainly of the greatest practical value to soldiers about to take the field in any tropical or subtropical country where typhoid is known to prevail

Medical Press and Circular, London

August 31

16 *Preventive Treatment of Scarlet Fever by Isolation (Aggregation) Hospitals H I J Biss
17 Hospital Isolation and Scarlet Fever the Statistical Aspect C K Millard

16 **Preventive Treatment of Scarlet Fever**—Biss calls attention to the fact that isolation of the patient, except in the case of smallpox, has proven ineffectual so far as stamping out scarlet fever is concerned If scarlet fever is to stand a chance of eradication by isolation, a prodigious number of cases of slight sore throat, of anomalous blushes of the skin, of ill defined shagginess of the fingers, must be isolated, or a large proportion of real sources of infection will be left unrestrained This would entail imprisonment and serious loss to many not suffering from scarlet fever, but whose illness could not be diagnosed with certainty Any system that seeks to eliminate the personal element in scarlet fever infection must rest for its success on the separation of all cases, or of such a large percentage that a very sensible reduction in the total number of infections would be apparent Such can never be the case until the diagnosis has improved to such a point that practically all cases however mild, are recognized and dealt with in hospital or at home It is doubtful whether individual elimination is likely ever to be of much service as a prophylactic measure

Dublin Medical Journal

September 1

18 On the Need for Family Care of Persons of Unsound Mind in Ireland Conolly Norman
19 Suggestions for the Prevention of Puerperal Infection in Private Practice John W Byers
20 Some Remarks on the Epiphyses of the Long Bones and Their Bearings on the Operation of Resection John Knott
21 *Burning Foot, or Erythromelalgia Tropica P N Gerrard

21 **Erythromelalgia Tropica**—Gerrard reports six cases of burning foot, or erythromelalgia, a disease of the plantar nervous or arterial supply, which occurs in the natives of the Malay peninsula who are accustomed to work barefooted on roads and plantations It commences, usually, with a "pins and needles" sensation, affecting the soles of the feet It then progresses to an acute burning sensation, which in the majority of cases is so severe as to prevent the patient walking, and frequently necessitates the administration of narcotics to produce sleep In some cases the patient is enabled to walk on the heels with the aid of a stick, while in others no progress nor attempt can be made Although a previous history of malaria can usually be obtained, no history of malaria occurring during the progress of the disease has been found in any case It is possible, therefore, that the disease may be a neuritis of malarial origin in which the blood supply to the nerves implicated may have become cut off by means of a deposit of malarial pigment Another etiologic factor to be considered is "arteriole fatigue" The treatment was varied Some relief was obtained in two cases by immersing the feet in hot water containing a quantity of salt Various liniments and ointments were unsuccessfully tried, and general tonics with or without strychnin, also failed to give permanent relief Narcotics and sedatives of all kinds only relieved the disease for the period of their action

Presse Médicale, Paris

22 (No 69) *Du principe phospho-organique des graines végétales L'acide anhydro oxyméthylene diphosphorique Son action biologique. A. Gilbert and A Lippmann
23 Functional Impotence of Shoulder in Industrial Insurance F Mally—Impotences fonctionelles de l'articulation de l'épaule au point de vue des accidents du travail
24 (No 70) *Chlorose et tuberculose M Labbé
25 *Les hernies diaphragmatiques congénitales Planchu
26 Complications des extractions de dents (of teeth) G Mahé

22 **Organic Phosphorus in Therapeutics.**—Phosphorus is needed by the organism, not only for its nutritive but also for its dynamic properties, Gilbert remarks Recent research has shown the constant absence of mineral phosphates from human milk and has also shown the remarkable abundance of phospho

74 Iron Light Treatment of Alopecia Areata Supplement to Article in No 31
75 Karl Weigert Nekrolog

49 Etiologic Diagnosis of Typhoid Fever—Jürgens comments on the facts that healthy persons can shelter the typhoid bacillus, and that typhoid bacilli are liable to be found in the stools of convalescents even long afterward These facts discredit the value of bacteriologic examination The serum reaction is, further, not absolutely reliable evidence in regard to the etiology of a given affection supposed to be typhoid, as its findings vary so inexplicably He remarks that "the confusion that can be induced by inadequate clinical observation and uncritical etiologic diagnosis is well shown by the literature published during the last few years on paratyphoid affections Most of these paratyphoid cases are not typhoids with a special etiology, but merely affections interesting on account of the peculiar reaction on the part of the blood serum Some were probably ordinary typhoid, others had nothing whatever to do with typhoid Other cases have been observed which did not differ from typhoid in any respect, although they were caused by the Schottmüller instead of the Eberth bacillus Typhoid fever is thus apparently not an etiologic unit, and it is merely splitting hairs whether we call the cases of typhoid not caused by the Eberth bacilli, paratyphoid, or whether we include them in the term typhoid with merely some additional term to express their etiologic peculiarity We can speak of a typhoid with a special etiology only when the symptoms of typhoid are present and Eberth's bacillus as the cause of the disease can be definitely excluded This is the only means to bring order out of the present confusion, the result of insufficient clinical observation and over hasty deductions, and show whether typhoid fever should be separated into several distinct diseases"

50 Relief of the Kidneys by Sweating—Strauss has been studying this subject on a large amount of material, comparing the findings by groups of patients with various affections He obtained the sweat for the purpose by the use of dry heat, a rubber sleeve fitting over the arm, a faucet in the sleeve bag allowing all the accumulated fluid to be drawn out into a vessel below Out of 200 tests he was able to obtain enough sweat for comparative research only in 80 In 25 of these 80 subjects some serious renal trouble existed, the others were patients for whom sweating procedures had been ordered generally on account of some neuralgic or rheumatic trouble The findings showed that the molecular concentration of the blood was frequently higher in the nephritic than in the non nephritic subjects, especially in the uremic nephritics The retention of water in cases of purely nephrogenic edema fulfills a compensatory purpose, as it serves to dilute the retained salts and other débris of metabolism The end products of nitrogen metabolism are not so important for the origin of the edema as the salts, yet the poisonous substances which cause the uremia must be sought among them, although we are not yet able to define them The pathologic importance of the retention of salts is demonstrated in another direction from that of the retention of the end products of nitrogen metabolism There is scarcely any department of internal medicine in which such opposite views prevail as in this question of the efficacy of sweating procedures for the elimination of nitrogenous molecules In the tests here described these molecules were in proportions in half the cases of nephritis far beyond that attained in three quarters of the non nephritic cases The amount of total nitrogen was generally somewhat larger than in the subjects with sound kidneys The practical conclusions of the research reported are to the effect that sweating procedures are liable to be beneficial in nephritis, and that uremic accidents need not be specially feared It is advisable, however, to supplement the sweating by copious ingestion of water to prevent evil consequences from the diaphoresis in uremic subjects If the edema increases, this is a minor ill, and the superfluous fluid can be easily tapped Strauss' experience has not shown that sweating had any influence in favoring the outbreak of uremic accidents On the contrary, his impression is that uremic subjects are improved by it, his empiric observation confirming the results of his research here presented

53 Carbonic Oxid Poisoning—In the first of the 2 cases reported the man had worked in an imperfectly ventilated room in which coke stoves were burning He suddenly presented symptoms suggesting a focus of softening or hemorrhage in the left hemisphere The permanent motor aphasia justifies the assumption that this focus involved the region of the foot of the anterior central convolution A history of mild syphilis a few years before suggests that the part may have been predisposed In the second case, the symptoms were about the same but rapidly retrogressed An accident to the woman's skull a year or so before may have afforded a predisposition She exhibited likewise cyanosis and edema of both hands, knee and forearms, with pemphigus-like blisters, subsiding by the tenth day, all but two rows of blisters on the right forearm, which terminated in necrosis, healing finally after several weeks They were evidently due to a neuritic process The poisoning occurred in consequence of shutting the damper in the stove pipe She and her husband were taking coffee together, when she lost consciousness and was not found until after twenty six hours The husband was dead

57 Removal of Urates and Capsule from Gouty Toe—In 1882 Riedel was summoned to operate on a great toe which had suddenly become swollen and intensely painful after a day's hunting, the subject a previously entirely healthy man of 45 The aspect of the toe suggested hallux valgus and suppuration in a bursa Under narcosis Riedel incised, searching for the assumed bursa, but nothing of the kind was found, merely a typical gouty deposit of urates, the capsule congested and set with pointed urate crystals He was horrified to find that he had operated on a gouty toe, but, having it open before him, proceeded to remove all the urates and extirpated also the capsule The patient was relieved at one stroke from his excruciating pain, and during the twenty two years since has had no further trouble of the kind He was so grateful that he went about advising other subjects with podagra to submit to an operation, but none heeded him and twelve years passed before Riedel had an opportunity to operate on another case of the kind The diagnosis in this second case had been similarly mistaken, bursitis with secondary suppuration having been assumed The results were as perfect as in the first case Of course this operative treatment should be restricted to isolated podagra, involving only a single toe But the results were so encouraging in his 2 cases that he can not refrain from advocating such a procedure in case of rebellious, excruciatingly painful gout, isolated at a single point The great toe is easily accessible, and at the same time very resistant Extensive detachment of the capsule does not impair its nutrition if the wound is left open In a gouty joint the inflammation is aseptic the exudate merely serous If a recurrence should develop the simple operation could be readily repeated In any event, the patient can count on years of peace in the interim

59 Spontaneous Healing of Cancer—Borrmann has examined histologically 265 cutaneous carcinomata, with over 2 000 microscopic sections, and has frequently found the so called foreign body giant cells But he does not admit that these giant cells are an indication of healing of the lesion They do not take up living cells, but merely form around dead detritus They were seldom or never found among the living cells of the cancer In 80 cases the lesion was an ulcus rodens, and giant cells were numerous, yet these lesions are inevitably slowly progressive In his experience the giant cells were more numerous in the rapidly growing cancers Deported cancer cells undergo horny transformation, and when killed by this process are then taken up by the giant cells The latter respect them so long as they are alive

62 Menstruatio Precox—Stein was called to a babe of 6 months, as genital hemorrhage was noted It recurred regularly month after month under the aspect of menstruatio precox He gives an illustration of the child at fourteen months, the menstruation having recurred eight times, and, curiously, always coinciding with that of the mother

64 For Mosquito Bites—Schill recommends to apply a little sodium bicarbonate, moistened to a paste, to take the sting out of a mosquito bite. It may be used in a concentrated solution To drive the insects away, he swabs the exposed parts with a 2 per cent. solution of thymol He has found these measures very effectual against mosquitoes and gnats

65 **Madeira as a Health Resort**—The Madeira Islands offer a combination of sea air, hill and mountain climate, freedom from dust and climatic vicissitudes, remarkably beautiful scenery and luxuriant vegetation, which make it a most promising health resort As has been mentioned in the news columns, a company has been formed to exploit Madeira for this purpose It will be possible there to have a tuberculous subject try different climates and altitudes under the supervision of a single physician, to determine which is best suited for him No research of this kind has yet been undertaken It is planned to make the sanitation of the island chosen ideal to have three sanatorium hotels at different elevations, with possibly a floating sanatorium, and to spare no pains to make it a perfect health resort, according to the most advanced ideas The names of Pannwitz and Wolff guarantee the high scientific character of the undertaking

68 **Kehr's Operation on Waldeck-Rousseau**—(See page 823) The patient was a man of 58 always healthy until icterus developed suddenly last fall after a violent emotion There was no pain, but the icterus continued with varying intensity until the spring, when there was gradual loss of appetite and strength An operation was undertaken the abdomen opened, and through a small incision at the outer margin of the right rectus the surgeons (Poirier and Terrier) palpated a small, hard lump in the head of the pancreas Without further exposure of the cystic and bile duct or of the pancreas, they made an anastomosis between the gall bladder and the jejunum The gall bladder was large and adherent and its contents were thick and gelatinous A week later there were three cholemic hemorrhages from the wound but the icterus pruritis and lack of appetite persisted Two months after the operation the icterus was still the same as before, the only change being that the patient was weaker and more miserable. When Kehr was summoned he found an emaciated extremely icteric patient, drowsy and already standing under the sign of cholemic intoxication No pain could be elicited by palpation, the liver was enlarged but smooth and nowhere hard, there was no ascites and no tumor The pulse was regular and strong 84 The urine contained a large proportion of bile pigment but no sugar nor albumin the feces were completely decolored The family physicians said that the heart and lungs were sound Kehr diagnosed chronic occlusion of the common bile duct, but whether from a stone or tumor, pancreatitis or adhesions it was impossible to say His experience with 947 gall stone operations had been that a cancer had been found in 70 per cent, a stone in 10 per cent and chronic pancreatitis in 20 per cent The findings in the case showed that the anastomosis of the previous operation had not accomplished its purpose The cystic duct may have been compressed by adhesions, which would explain the non functioning of the anastomosis Kehr's practice is always to aspirate the contents of the gall bladder before opening it. It is then incised and its contents evacuated Only when bile flows from the cystic duct is anastomosis permissible If the cystic duct be impermeable, then cystostomy, or better still choledochoduodenostomy should be considered Eventually cholecystectomy may be done supplemented by an anastomosis between the common duct and the duodenum In any event a long incision should be made to enable the conditions in the ducts to be ascertained correctly In the case in question the cystic duct may have been impermeable at the time of the first incision or may have become so later The patient had not lost his icterus, and an operation was the only resource left as he and his friends appreciated The age and sex spoke in favor of carcinoma, also the almost painless course of the trouble (possible likewise in case of stones), the severe icterus (possible in case of stone in the papilla), and the cachexia (possible also in case of occlusion from stone) Evidence against cancer was the sudden appearance of the icterus its fluctuations and the comparatively long course of the affection Cases of scirrhus of the pancreas are known which have run a two year course The patient was doomed without an operation, and if the trouble was of a non malignant nature it might cure, and, if malignant, it might prove palliative The chances were 30 per cent in favor of the former The patient was too weak to be taken to a hospital The abdomen was opened and a rather hard tumor was found in the pancreas behind the duodenum, studded with nodules, in all probability a carcinoma But, as chronic pancreatitis can induce a similar tumor formation, there was a possibility of this, especially as the glands were not enlarged and there was no trace of ascites On the strength of this possibility Kehr regarded it as his duty to provide for the evacuation of the stagnating bile A lobe of the liver presented and was taken for the gall bladder and incised the liver incision lengthening the operation by five minutes The gall bladder was found lax and almost empty, containing merely a little secretion and an undigested scrap of melon The cystic duct was completely occluded It had taken an hour to reach this point and the patient showed signs of collapse A tube was inserted in the gall bladder and an incision made in the common duct above the duodenum the bile spurting in a stream At this sudden evacuation of the liver the signs of collapse increased, and the intended choledochoduodenostomy or anastomosis between the gall bladder and common duct had to be abandoned Kehr had to content himself with draining the hepatic duct tamponing and closing the abdomen concluding the intervention in seventy five minutes On account of the extensive adhesions it was one of the most difficult operations he has ever done The patient was placed in bed the pulse grew a little stronger but after an hour disappeared, and death ensued before the second hour One of the lessons learned from this instructive case he adds is the value of a hospital environment Everything had presumably been prepared but the surgeon felt the lack of light from above he missed his adjustable operating table and the oxygen chloroform apparatus to which he was accustomed, although he had brought his own anesthetist with him

70 **Beck's Method of Operating on Hypospadia.**—Bötticher reviews 10 cases in which Beck's method was followed, the results compelling him to urgently corroborate König's assertion that the Beck technic has superseded all other methods of treating hypospadia The results are just as brilliant in very young children, but on account of the soiling of the parts during infancy the Giessen clinic has adopted the rule not to operate in cases of hypospadia until after the child is in its third year

71 **Rupture of Bladder During Bottini Electrolysis of Prostate**—Rosenstein describes a case of prostatic retention treated at Israel's clinic by Bottini electrolysis according to the usual technic During the process the bladder ruptured with the sound of an explosion Experimental research since suggests that the steam generated by the heat of the cautery was responsible for the explosion of the bladder He reproduced similar conditions in glass vessels and in rabbits' bladders, and found that an explosion followed the "Leidenfrost" phenomenon (the dancing of the drops of moisture on the white-hot knife isolated by their steam), and the sudden evaporation into steam as soon as the knife is cooled to a certain point by contact with the tissues He sees no way to obviate this disaster in performing the Bottini operation, and thinks that the danger from it should turn the scale in favor of prostatectomy

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76 (XXV No 61) Honors to C Pozzoli
77 Sulla presenza del peptone di Kühne nell orina I Borelli
78 *Sul potere saccarificante del sangue in condizioni normali e patologiche R Vigliani
79 Contributo allo studio dei tumori maligni nel seno mascellare (In male breast) V Ingraldi
80 *Varia sintomatologia del carcinoma gastrico G Marelli
81 (No 64) *Sull inizio anomalo di alcune infezioni A Campani
82 La dissociazione delle sensibilita elementari nell emiplegia. P Ferri.
83 Contributo alla cura ed alla etiologia del vomito incoercibile delle gravide F Scaramucci
84 Gravissimi riflessi nervosi in gravidanza fisiologica Opoterapia tiroidea Guarigione. V Valerio

85 (No 67) *Per la ricerca dei bacilli tubercolari C Tarchetti
86 La sutura ossea nelle fratture della clavicola G Baroni
87 *Nuovo contributo alla tecnica della ipodermoclisi e delle iniezioni endovenose L A Oliva (Genoa)
88 Sublimato corrosivo e tubercolosi A Monari
89 Contributo clinico allo studio dell' osteite vertebrale post tifica A Germani
90 (No 70) *Sull' iperglobulia dei tubercolosi S Micoli
91 *Sulla genesi tubercolinica delle iperglobulie tubercolari S Rebaudi and L Alfonso
92 Di un epidemia di disturbi intestinali da un colibacillo virulento nell' acqua potabile L Vincenzo
93 Il siero Maragliano Nella profilassi e nei casi incipienti della tubercolosi S Calasuonno
94 Le iniezioni intramuscolari di antipirina nelle nevralgie ischiatiche S Pascholetti
95 Goiter and Fatigue T di Giuseppe—Gozzo e fatica
96 Contributo alla diagnosi di eclampsia in gravidanza S Pascoletti
97 Azione antinevralgica e antitermica della morfina nelle nevralgie tubercolari M Bellotti

78 **Increase in Sugar-Forming Property of Blood**—Vigliani does not attempt to explain this phenomenon, but states that it occurred constantly in his experiments By modifying the metabolism, either with phloridzin or phosphorus, the sugar forming property of the blood serum was much augmented

80 **Symptomatology of Gastric Cancer**—Several puzzling cases are described In one there was no absence of HCl while no tumor nor specific formed elements could be discovered The diagnosis was based on the lack of appetite, repugnance for meat, absence of the signs of perforation and of vomiting after eating, the dry, straw colored skin, the cachexia and progressive character of the symptoms which suggested gastric ulcer In a second case the symptoms indicated stenosis of the pylorus, but there was no vomiting and no HCl In a third case the symptoms were those of pernicious anemia, but the progressive cachexia the difficulty in ingesting solid foods and the pains in the intrascapular region suggested a cancer in the lesser curvature The cancer in his fourth patient induced intermittent fever probably from absorption of toxic products A psychosis was the first signal of trouble in this case, soon followed by the discovery of a tumor in the stomach

81 **Unusual Onset of Certain Infections**—Several cases of typhoid pneumonia and erysipelas are described, in all of which the first manifestations were identical, all of a gastro nervous type They included vomiting, diarrhea colic unconsciousness pupil inertia, clonic convulsions, etc Notwithstanding the severity of the onset, the after course was unusually mild in some of the cases

85 **Simple Stain for Tubercle Bacilli**—Among the causes of failure to show up tubercle bacilli, Tarchetti mentions defective preparation of the material imperfect staining and the unfounded notion that a contrast stain is necessary He uses a simple technic, which includes spreading the material in a thin, even layer on cover glasses fixation with heat staining with phenic fuchsin or Ziehl's (fuchsin 1 part alcohol, 10, phenic acid, 5, and water 100), applied hot for ten to fifteen minutes, rinsing decoloring for one or two minutes in a concentrated alcoholic solution of picric acid, changing the liquid once The process concludes with brief rinsing, drying and mounting in balsam The advantages of this technic are its simplicity and the mild action of the picric acid while the persistence of the yellow stain gives the impression of contrast staining

87 **Technic of Subcutaneous and Intravenous Injections**—Oliva described two years ago, an instrument for this purpose, and his experience has impressed him more and more with its advantages The needle is enclosed in a canula, which protects against its penetrating too far The tube connecting it with the fluid to be injected is enclosed in a larger tube through which there is a constant flow of hot water The simple apparatus is illustrated in detail

90 **Hyperglobulia in Tuberculosis**—This article has been noticed editorially, page 742 Micoli noticed that a certain patient with incipient tuberculosis had six million red corpuscles The aspect suggested anemia rather than hyperglobulia These findings were repeated in a number of other cases of slight sclerosis of the apices Pondering on this remarkable hyperglobulia in apparently anemic subjects, he came to the conclusion that it was due to the action of small amounts of tuberculin, such as are produced by a small, circumscribed, inactive tuberculous focus Arsenic in small amounts promotes the regeneration of the blood, and he queried whether tuberculin might not have a similar action Experimental researches on animals treated with small doses of tuberculin have confirmed the correctness of this assumption He refers to Swan's report of hyperglobulia observed in 8 out of 26 tuberculous subjects examined (THE JOURNAL, xlii, March 12), and explains the scarcity of such findings by the general impression that the pallor of consumptives is evidence against hyperglobulia In reality, the color of the skin depends on the pigmentation and the activity of the capillary circulation It has nothing to do with the number of the red corpuscles Another reason is that the blood is seldom examined in the incipient phases of tuberculosis When the patients come to the clinics this phase is long past Many influences are known that reduce the number of reds, and there is nothing strange in the fact that other influences may increase them Among such influences must be reckoned the action of the tuberculin generated in some small, torpid process in the spleen or lungs In a recent case a patient with sclerosis of the apices had hemoptysis of a pint of blood twice, with ten days' interval The day after the second hemorrhage the reds numbered 5,600,000 Hyperglobulia in incipient tuberculosis is a means of differentiating an active from a torpid process The hyperglobulia that follows hemoptysis is an argument in favor of venesection as an effectual measure against certain of the symptoms of tuberculosis

91 **Tuberculin as Stimulus to Production of Red Corpuscles**—This article relates the particulars of the research referred to in the preceding abstract The writers found that large doses of tuberculin injected into guinea pigs had a very destructive action on the reds Moderate doses had no apparent effect on the reds but repeated small doses induce pronounced hyperglobulia The hemoglobin increased parallel with the number of the reds This effect was apparent in a few days, and persisted for some time It was so marked that the writers suggest that it might be utilized in the therapeutics of non tuberculous affections Subcutaneous injection of minute "refractory" doses of tuberculin might prove an effective means in combating non tuberculous anemia and chlorosis In such small doses tuberculin is perfectly harmless, and it is being tested now in the clinic

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Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers

HANDBOOK OF SURGICAL ANATOMY By G A Wright B A M B (Oxon) F R C S Professor of Systematic Surgery in the Owens College and C H Preston M D, B S (Lond) F R C S L D S (Eng) Lecturer on Dental Anatomy in the Owens College Cloth Pp 202 Price $1 50 net Philadelphia P Blakiston's Son & Co 1904

REGIONAL MINOR SURGERY Describing the Treatment of The Conditions Daily Encountered by the General Practitioner By George Gray Van Schaick M D, Consulting Surgeon to the French Hospital, N Y Cloth Pp 226 Price $1 50 New York International Journal of Surgery Co

EPITOME OF NERVOUS AND MENTAL DISEASES A Manual for Students and Physicians By Joseph Darwin Nagel M D Consulting Physician to the French Hospital New York With 46 Illustrations Cloth Pp 276 Price $1 00 net Philadelphia and New York Lea Brothers & Co 1904

KIRK'S HANDBOOK OF PHYSIOLOGY Revised by Frederick C Busch B S M D Professor of Physiology Medical Department University of Buffalo Fifth American Revision With 535 Illustrations Including Many in Colors Cloth Pp 862 Price $3 00 New York Wm Wood & Co 1904

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH Reprints Paper Volume II 1904 Bacteriological and Clinical Studies of the Diarrheal Diseases of Infancy with Reference to the Bacillus Dysenteriæ (Shiga) Edited by Simon Flexner M D and L Emmett Holt 1904

STRABISMUS OR SQUINT, Latent and Fixed A Supplement to the Errors of Refraction By Francis Valk M D, Professor of Diseases of the Eye New York Post graduate School and Hospital Cloth Pp 171 Price $1 75 New York and London G P Putnam's Son 1904

EIGHTH ANNUAL REPORT OF THE MANHATTAN STATE HOSPITAL at New York to the State Commission in Lunacy for the Year Ending Sept 30 1903 Albany J B Lyon Co 1904